

# Math Distance Learning Packet

## Grade 3

## Student Version

## Use Order and Grouping to Multiply

Name: \_\_\_\_\_

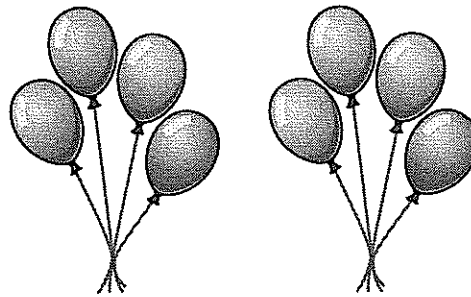
**Prerequisite:** Show Equal Groups with Multiplication

Study the example problem showing a multiplication sentence that represents a picture of equal groups. Then solve problems 1–7.

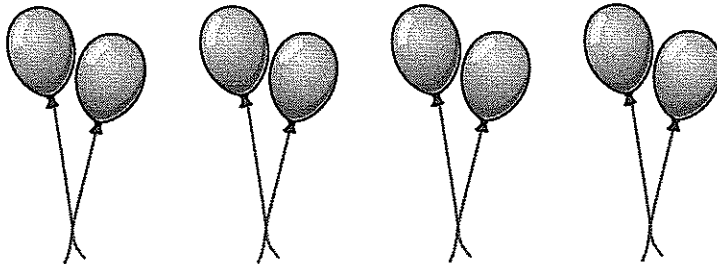
**Example**

Sophia has 2 groups of balloons.  
Each group has 4 balloons.  
Sophia has 2 groups of 4 balloons.  
She multiplied to find how many balloons she has altogether.

$$2 \times 4 = 8$$



Use the picture below to answer problems 1–3.



Luke's Balloons

- 1 How many groups of balloons does Luke have? \_\_\_\_\_
- 2 How many balloons are in each group? \_\_\_\_\_
- 3 Write a multiplication sentence to show how many balloons Luke has.

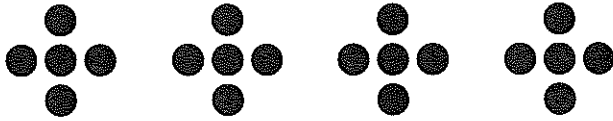
$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

**Vocabulary**

**multiplication** an operation used to find the total number of items when you have equal-sized groups.

**Solve.**

- 4** Look at the picture.



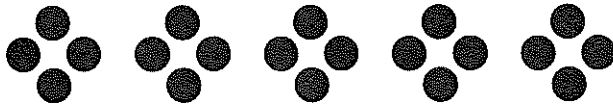
How many groups are there? \_\_\_\_\_

How many dots are in each group? \_\_\_\_\_

Write a multiplication sentence for the picture.

\_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_

- 5** Write a multiplication sentence for the picture.



\_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_

- 6** Draw a picture that shows  $3 \times 6 = 18$ .

- 7** Mitch has 4 groups of 3 stamps. Draw a picture of the groups and write a multiplication sentence for the picture.

Multiplication sentence: \_\_\_\_\_

## Use Order to Multiply

Study the example problem showing that the order of the factors doesn't matter when you multiply. Then solve problems 1–6.

## Example

Paul has 3 groups of 2 coins. Jill has 2 groups of 3 coins. Who has more coins?



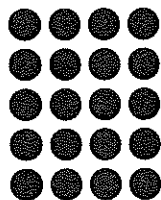
$$3 \times 2 = 6$$



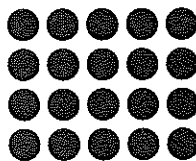
$$2 \times 3 = 6$$

Paul and Jill have the same number of coins.

- 1 For each picture, write how many rows there are and how many dots are in each row. Then write a multiplication sentence.



\_\_\_\_\_ rows  
 \_\_\_\_\_ dots in each row  
 \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_



\_\_\_\_\_ rows  
 \_\_\_\_\_ dots in each row  
 \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_

- 2 You know that  $3 \times 9 = 27$ . Explain how you know what  $9 \times 3$  equals.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Vocabulary

**factor** a number that is multiplied.

$$2 \times 5 = 10$$

2 and 5 are *factors*.

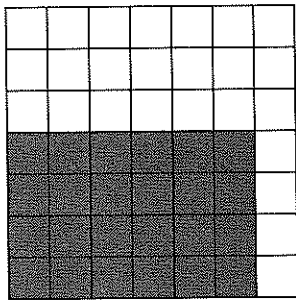
**product** the result of multiplication.

$$2 \times 5 = 10$$

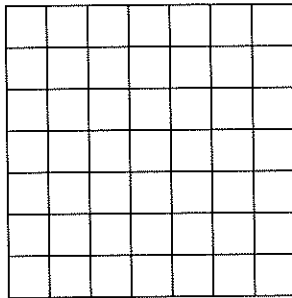
10 is the *product*.

**Solve.**

- 3** Daniel colored a grid to show  $4 \times 6 = 24$ . Color the other grid to show  $6 \times 4 = 24$ .



$$4 \times 6 = 24$$



$$6 \times 4 = 24$$

- 4** Explain how you know there are the same number of colored squares in both arrays in problem 3.

---

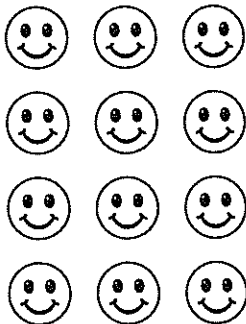
---

---

---

---

- 5** This array shows  $4 \times 3 = 12$ . Draw an array that shows  $3 \times 4 = 12$ .



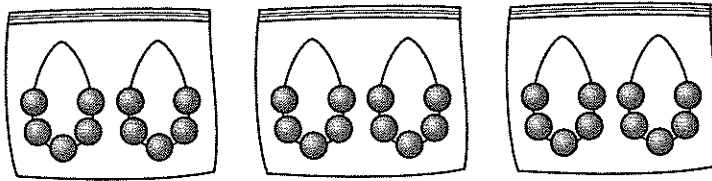
- 6** Avery has 3 baskets with 9 flowers in each basket. Ralph has 9 baskets of flowers. If he has the same total number of flowers as Avery, how many flowers does Ralph have in each basket? \_\_\_\_\_

## Use Grouping to Multiply

**Study the example showing how to use grouping to multiply. Then solve problems 1–9.**

**Example**

Leo makes bracelets. Each bracelet has 5 beads. Leo puts the bracelets in bags. Each bag has 2 bracelets. He used 3 bags. How many beads did he use?



Leo wrote  $(5 \times 2) \times 3$ . He used parentheses to show what numbers he multiplied first.

Leo used 30 beads.

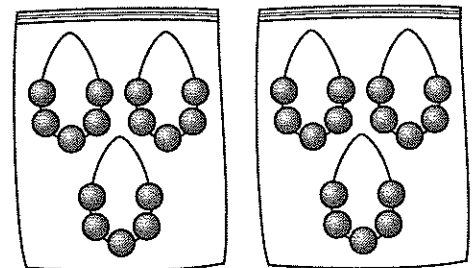
$$\begin{array}{c} (5 \times 2) \times 3 \\ \swarrow \quad \downarrow \quad \searrow \\ 10 \times 3 \\ \swarrow \quad \searrow \\ 30 \end{array}$$

**Use the following information to answer problems 1–5.**

Kelly also made bracelets. The picture shows the bracelets Kelly made.

- 1 How many beads did Kelly put on each bracelet? \_\_\_\_\_
- 2 How many bracelets did Kelly put in each bag? \_\_\_\_\_
- 3 How many bags did Kelly use? \_\_\_\_\_
- 4 How many beads did Kelly use? \_\_\_\_\_
- 5 Write a multiplication sentence. Use parentheses to show which numbers you will multiply first.

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$



**Solve.**

- 6** How would you group the numbers to solve  $7 \times 2 \times 4$ ? Why?

---

---

---

- 7** Addison and Claire chose different ways to multiply  $4 \times 5 \times 3$ . Addison grouped the numbers like this:  $4 \times (5 \times 3)$ . She found  $5 \times 3 = 15$ . Then she multiplied  $4 \times 15$  by adding  $15 + 15 + 15 + 15$  to get 60.

Explain how Claire could have grouped the numbers to multiply. Show the steps she used to find her answer.

---

---

---

- 8** Show two different ways to group  $8 \times 2 \times 3$ . Then find the answer.

*Solution:* \_\_\_\_\_

- 9** Look at your work in problem 8. Which way of grouping is easier for you? Why?

---

---

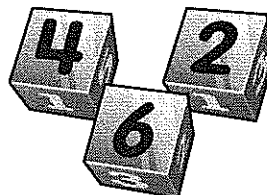
---

**Use Order and Grouping to Multiply**

**Study the example showing how to use order and grouping to multiply. Then solve problems 1–10.**

**Example**

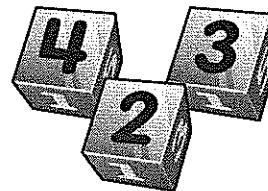
Rama changes the order and the grouping of numbers to make multiplication easier. What are two different ways Rama could multiply the numbers shown?



$$\begin{array}{c} (2 \times 4) \times 6 \\ \diagdown \quad \diagup \quad \diagdown \\ 8 \times 6 \\ \diagdown \quad \diagup \\ 48 \end{array}$$

$$\begin{array}{c} 4 \times (6 \times 2) \\ \diagdown \quad \diagup \quad \diagdown \\ 4 \times 12 \\ \diagdown \quad \diagup \\ 48 \end{array}$$

**Use the numbers on the three number cubes to answer problems 1–4.**



- 1** Order and group the numbers. Then multiply to find the product.

$$\underline{\quad} \times \underline{\quad} \times \underline{\quad} = \underline{\quad}$$

- 2** Order and group the numbers a different way. Then multiply to find the product.

$$\underline{\quad} \times \underline{\quad} \times \underline{\quad} = \underline{\quad}$$

- 3** Order the factors the same way you did in problem 2. Now, change the grouping with parentheses. Solve.

$$\underline{\quad} \times \underline{\quad} \times \underline{\quad} = \underline{\quad}$$

- 4** Which of these three multiplication sentences do you think is easiest to solve? Explain why you think so.

---



---

**Solve.**

- 5** Use the numbers 3, 5, and 2 as factors. Look at some of the ways the factors are ordered and grouped. Fill in missing numbers.

$$(3 \times 5) \times \underline{\hspace{1cm}} = 30 \quad (5 \times 2) \times \underline{\hspace{1cm}} = 30 \quad \underline{\hspace{1cm}} \times (3 \times 2) = 30$$

- 6** Look at problem 5. Multiply the numbers in parentheses first, then fill in the numbers below.

$$(\underline{\hspace{1cm}}) \times \underline{\hspace{1cm}} = 30 \quad (\underline{\hspace{1cm}}) \times \underline{\hspace{1cm}} = 30 \quad \underline{\hspace{1cm}} \times (\underline{\hspace{1cm}}) = 30$$

- 7** Which of the three multiplication sentences in problem 5 is easiest to solve? Why do you think so?

---

---

---

- 8** Multiply the factors 9, 2, and 2. Choose an order, and use parentheses to show one way to find the product.

*Solution:* \_\_\_\_\_

- 9** Explain why you chose to order and group the factors the way you did in problem 8.

---

---

- 10** Multiply the factors 4, 2, and 5. Choose an order, and use parentheses to show one way to find the product. Then show the steps to find the product.

*Solution:* \_\_\_\_\_

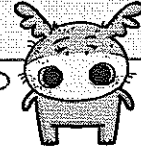
**Use Order and Grouping to Multiply****Solve the problems.**

- 1** A box of yogurt cups has 5 rows with 3 cups in each row. Rose has 3 boxes of yogurt cups.

Write a multiplication sentence to show how many yogurt cups Rose has altogether.

$$(\underline{\quad} \times \underline{\quad}) \times \underline{\quad} = \underline{\quad}$$

Remember that the order of the factors doesn't matter.



- 2** Show the easiest way for you to find the product of  $2 \times 7 \times 5$ . Use parentheses to show how you grouped the numbers. Find the product.

Which two numbers do you choose to multiply first?



*Solution:*  $2 \times 7 \times 5 = \underline{\quad}$

- 3** Which of these shows a way to order and group the factors 3, 5, and 6 to find the product? Circle all the correct answers.

- A**  $3 \times (5 \times 6) = 3 \times 30$
- B**  $(3 \times 6) \times 5 = 18 \times 5$
- C**  $(5 \times 3) \times 5 = 15 \times 5$
- D**  $6 \times (3 \times 5) = 6 \times 15$

Do the parentheses have to go around the first two factors?

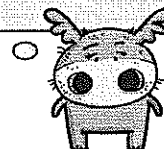


## Solve.

- 4 There are 3 students on a math team. There are 6 math teams. Each student has 2 pieces of scratch paper. How many pieces of scratch paper are there altogether?

**Show your work.**

Choose an order and the grouping that makes the multiplication easier for you.



**Solution:** There are \_\_\_\_\_ pieces of scratch paper.

- 5 Xavier knows  $7 \times 4 = 28$ . What other math fact does this help Xavier remember? Circle the letter of the correct answer.

A  $3 \times 4 = 12$

C  $4 \times 7 = 28$

B  $7 + 4 = 11$

D  $28 - 7 = 21$

Anna chose **B** as the correct answer. How did she get that answer?

Does this multiplication fact help you know a subtraction fact?



- 6 If you know that  $7 \times 8 = 56$ , what other fact does that help you know? Explain why.

This makes me think of an array with 7 rows and 8 objects in each row.



## Split Numbers to Multiply

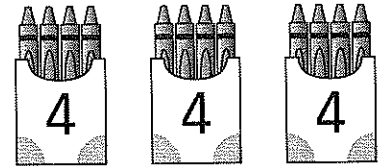
Name: \_\_\_\_\_

**Prerequisite:** Show Multiplication as Equal Groups

Study the example problem showing a multiplication sentence for a picture of equal groups. Then solve problems 1–10.

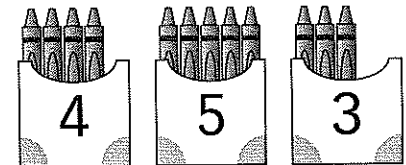
**Example**

Elmo has 3 boxes of crayons.  
Each box has 4 crayons.  
Elmo's boxes show equal groups.  
He can write a multiplication sentence to find the total.



$$3 \times 4 = 12 \text{ crayons}$$

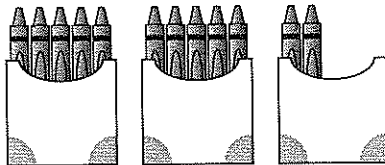
Shelly has 3 boxes of crayons.  
The boxes have 4, 5, and 3 crayons.  
Shelly's boxes do not show equal groups.  
She cannot write a multiplication sentence to find the total. She has to add.



$$4 + 5 + 3 = 12 \text{ crayons}$$

Use the picture below to answer problems 1–3.

Angie's crayons



- 1 How many boxes of crayons does Angie have? \_\_\_\_\_
- 2 How many crayons are in each box? \_\_\_\_\_
- 3 How many crayons does Angie have altogether? Can you write a multiplication sentence to find the total? Explain.

---



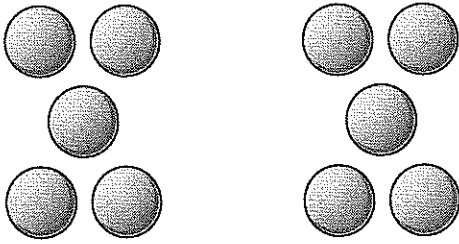
---



---

Solve.

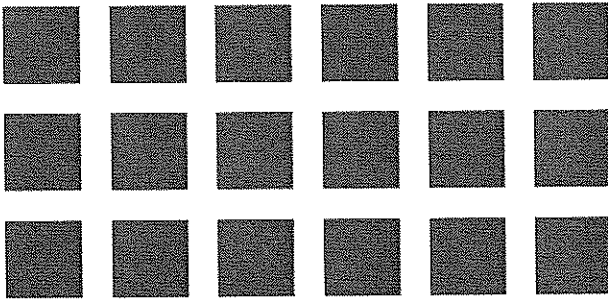
Use the picture below to answer problems 4–6.



- 4 How many groups are there? \_\_\_\_\_
- 5 How many balls are there in each group? \_\_\_\_\_
- 6 Write a multiplication sentence to show how many balls there are altogether.

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

Use the picture below to answer problems 7–9.



- 7 How many rows are in this array? \_\_\_\_\_
- 8 How many squares are in each row? \_\_\_\_\_
- 9 Write a multiplication sentence to show how many squares there are altogether.

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

- 10 Draw an array for the multiplication sentence  
 $2 \times 4 = 8$ .

## Break Apart Numbers to Multiply

Study the example problem showing how to break apart a number to multiply. Then solve problems 1–7.

**Example**

Owen has 8 bags of plums. There are 3 plums in each bag. How many plums does Owen have altogether?

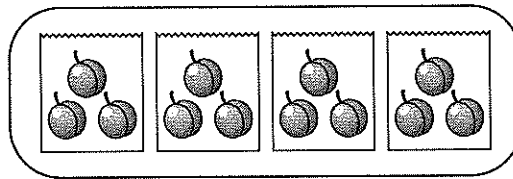
$$8 \times 3 = ?$$

You might break apart the 8 into 4 and 4.

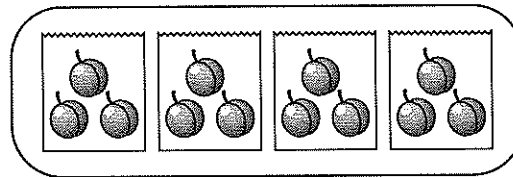
Multiply each part by 3.

Then, add the two products.  
 $12 + 12 = 24$ .

$$\text{So } 8 \times 3 = 24.$$



$$4 \times 3 = 12$$



$$4 \times 3 = 12$$

- 1 How many rows and columns are in the array? Fill in the blanks.

\_\_\_\_\_ rows and \_\_\_\_\_ columns.

- 2 Circle rows to break apart the array into two parts.

- 3 Write multiplication sentences to show the total for each part of the array.

$$\_\_\_\_\_ \times \_\_\_\_\_ = \_\_\_\_\_ \quad \_\_\_\_\_ \times \_\_\_\_\_ = \_\_\_\_\_$$

- 4 How can you use your answer to problem 3 to find the product of  $7 \times 6$ ? Explain.

---



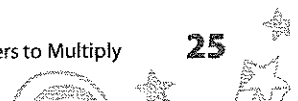
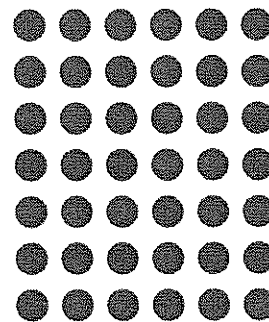
---



---



---



**Solve.**

- 5** Draw a line to the pair of multiplication sentences that can be used to solve each problem.

$8 \times 4 = ?$

$5 \times 7 = 35$

$3 \times 7 = 21$

$3 \times 9 = ?$

$6 \times 5 = 30$

$6 \times 2 = 12$

$6 \times 7 = ?$

$3 \times 5 = 15$

$3 \times 4 = 12$

$8 \times 7 = ?$

$5 \times 8 = 40$

$4 \times 8 = 32$

$9 \times 8 = ?$

$5 \times 4 = 20$

$3 \times 4 = 12$

- 6** Draw an array to show  $6 \times 4$ .

- 7** Circle rows to break the array in two parts. Show how to use the parts to find  $6 \times 4$ .



## Use Grouping to Multiply

Study the example showing how to break apart a factor to multiply. Then solve problems 1–7.

**Example**

Grace gives grapes to 6 friends. She gives each friend 7 grapes. How many grapes does Grace share altogether?

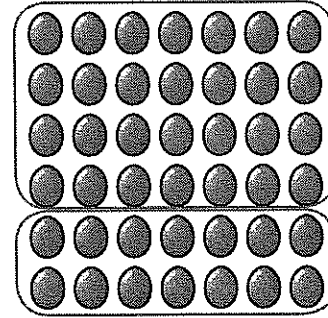
$$6 \times 7 = ?$$

You might break apart the 6 into  $4 + 2$ .

Multiply each part by 7.  $(4 \times 7) + (2 \times 7) = ?$

Then, add the two products.  $28 + 14 = 42$ .

So  $6 \times 7 = 42$ .



$$4 \times 7 = 28$$

$$2 \times 7 = 14$$

Tony has 8 boxes of toy cars. Each box has 6 cars in it.

- 1 Write a multiplication sentence for this story.

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = ?$$

- 2 To help you find  $8 \times 6$ , you might break apart the 8 into 5 and 3. Write the two multiplication problems this would give you.

$$\underline{\hspace{2cm}} \times 6 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \times 6 = \underline{\hspace{2cm}}$$

- 3 Add the two products in problem 2. How many toy cars does Tony have?

---

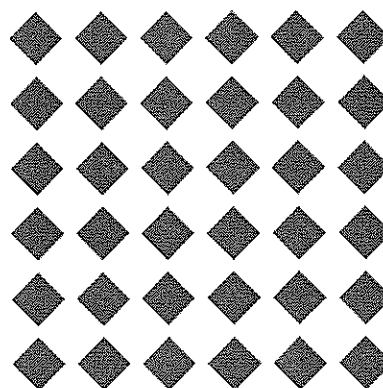


---

**Solve.**

- 4 Ron drew this array. What multiplication sentence can he solve using this array?

\_\_\_\_\_  $\times$  \_\_\_\_\_ = ?



- 5 Circle rows or columns to break the array into 2 parts. Then fill in the blanks to show how to use the parts to find the answer to problem 4.

$6 \times 6 = (\text{_____} \times 6) + (\text{_____} \times 6).$

So,  $6 \times 6 = \text{_____} + \text{_____}.$

So,  $6 \times 6 = \text{_____}.$

- 6 Write the multiplication sentence you solved in problems 4 and 5. How can you use that answer to find the product of  $6 \times 9$ ? Explain.

\_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_

---



---



---

- 7 Draw a line from each box to the multiplication fact it could help you find.

$(2 \times 5) + (6 \times 5)$

$7 \times 7 = 49$

$(2 \times 8) + (5 \times 8)$

$8 \times 5 = 40$

$(2 \times 7) + (5 \times 7)$

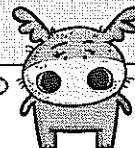
$6 \times 8 = 48$

$7 \times 8 = 56$

**Break Apart Numbers to Multiply****Solve the problems.**

- 1** Finn has 7 bags of marbles. Each bag has 3 marbles. Show one way to break apart the 7 to multiply. Then find the total number of marbles.

I think there is more than one way to break apart the bags.



- 2** Tawny breaks apart 9 to solve  $9 \times 5$ . Show one way Tawny can do this. Then solve the problem.

What are different ways to break apart 9?



- 3** Which of these are ways you can break apart a factor to solve  $6 \times 3$ ? Circle all the correct answers.

- A**  $3 \times 3 = 9$  and  $3 \times 3 = 9$
- B**  $4 \times 3 = 12$  and  $2 \times 3 = 6$
- C**  $6 \times 2 = 12$  and  $4 \times 3 = 12$
- D**  $6 \times 1 = 6$  and  $6 \times 2 = 12$

You can break apart either factor.



## Solve.

- 4 Sandy wants to multiply  $7 \times 5$ . She breaks apart the 7 into 4 and 3. What is Sandy's next step? Circle the letter of the correct answer.

- A  $7 \times 4 = 28$  and  $7 \times 3 = 21$   
 B  $7 \times 5 = 35$  and  $5 \times 4 = 20$   
 C  $4 \times 5 = 20$  and  $3 \times 5 = 15$   
 D  $4 \times 3 = 12$  and  $7 \times 5 = 35$

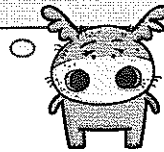
Mitch chose **A** as the correct answer. How did he get that answer?

---

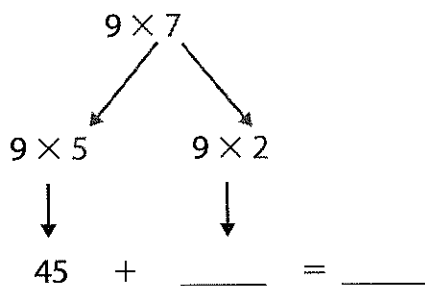
---

---

Look back at the first multiplication problem to check your answer.



- 5 Tia solved  $9 \times 7$  by breaking apart 7 into 5 and 2. Fill in the blanks to show how she did it.



What do the red arrows show you?



- 6 Look at problem 5. Show a different way to break apart factors to solve the problem.

Can you break apart 7 in a different way? Can you break apart 9?



## Multiplication and Division Facts

Name: \_\_\_\_\_

**Prerequisite: Write Multiplication and Division Sentences**

Study the example problem showing how to write multiplication and division sentences for arrays. Then solve problems 1–8.

**Example**

There are 12 eggs in the carton.  
They are arranged in an array.

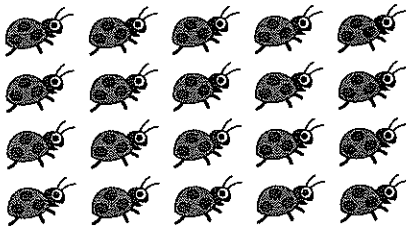


There are 2 equal rows.  
There are 6 eggs in each row.

$$2 \times 6 = 12$$

$$12 \div 2 = 6$$

- 1 Look at the division sentences from the box. Write two division sentences under each array.



\_\_\_\_\_  $\div$  \_\_\_\_\_ = \_\_\_\_\_      \_\_\_\_\_  $\div$  \_\_\_\_\_ = \_\_\_\_\_  
 \_\_\_\_\_  $\div$  \_\_\_\_\_ = \_\_\_\_\_      \_\_\_\_\_  $\div$  \_\_\_\_\_ = \_\_\_\_\_

**Division Sentences**

$$20 \div 4 = 5$$

$$15 \div 5 = 3$$

$$15 \div 3 = 5$$

$$20 \div 5 = 4$$

- 2 Write two multiplication sentences that could help you find the quotients in problem 1.

$$4 \times 5 = \underline{\hspace{2cm}}$$

$$5 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

**Vocabulary**

**quotient** the result of division.

**Choose a multiplication sentence from the box for each story.**

- 3** Paige buys 5 packs of toys. There are 4 toys in each pack. How many toys are there altogether?

$$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

- 4** Max has 3 bags. There are 5 toys in each bag. How many toys does he have altogether?

$$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

**Choose a division sentence from the box for each story.**

- 5** Rodney shares 20 strawberries evenly with 4 people. How many does each person get?

$$\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

- 6** Dan has 15 baseballs and 3 bags. He puts an equal number of balls in each bag. How many balls are in each bag?

$$\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

**Number  
Sentences**

$$3 \times 5 = 15$$

$$20 \div 4 = 5$$

$$5 \times 4 = 20$$

$$15 \div 3 = 5$$

**Solve.**

- 7** You know that  $7 \times 8 = 56$ . Use the numbers 7, 8, and 56 to solve related multiplication and division facts.

$$7 \times 8 = \underline{\hspace{1cm}} \qquad 56 \div 8 = \underline{\hspace{1cm}}$$

$$8 \times 7 = \underline{\hspace{1cm}} \qquad 56 \div 7 = \underline{\hspace{1cm}}$$

- 8** You know that  $9 \times 6 = 54$ . Use the numbers 9, 6, and 54 to fill in the blanks in these related facts.

$$9 \times \underline{\hspace{1cm}} = 54 \qquad 54 \div 6 = \underline{\hspace{1cm}}$$

$$6 \times \underline{\hspace{1cm}} = 54 \qquad \underline{\hspace{1cm}} \div 9 = 6$$

## Work with Division Facts

Study the example that shows how a drawing can help you understand division facts. Then solve problems 1–9.

Here is an array of 15 fish.



There are 3 rows with 5 fish in each row.



The fact family describes the array in different ways.

$$3 \times 5 = 15 \quad 15 \div 5 = 3$$

$$5 \times 3 = 15 \quad 15 \div 3 = 5$$

Write one of the facts from the list above that can help you answer each question.

- 1 How many fish are there altogether?

\_\_\_\_\_

- 2 15 fish swim in 3 equal rows. How many fish are in each row?

\_\_\_\_\_

- 3 15 fish swim in rows of 5 fish. How many rows of fish are there?

\_\_\_\_\_

- 4 You know that  $4 \times 9 = 36$ . Write the whole fact family. Use the numbers 4, 9, and 36.

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

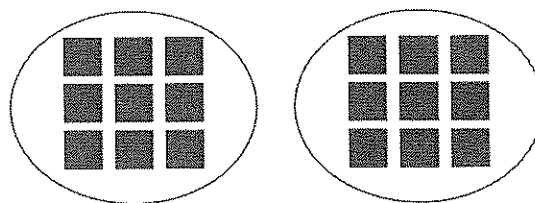
### Vocabulary

**multiplication and division fact family**  
a group of related multiplication and division number sentences that use the same numbers.

**Solve.**

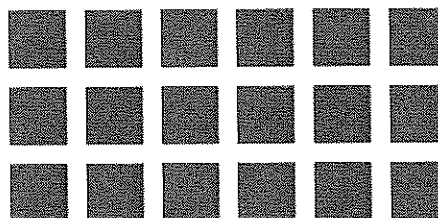
- 5 Sienna draws 18 squares in two equal groups of 9. Choose the division sentence her drawing shows.

- A  $9 \div 3 = 3$   
B  $18 \div 6 = 3$   
C  $18 \div 2 = 9$   
D  $6 \div 2 = 3$



- 6 Write two different division sentences about the array.

\_\_\_\_  $\div$  \_\_\_\_ = \_\_\_\_  
\_\_\_\_  $\div$  \_\_\_\_ = \_\_\_\_



Chee has 24 trading cards. He gives away all his cards to friends. He gives 8 cards to each friend.

- 7 Draw a picture to show Chee's cards in groups of 8.

- 8 Write two different division facts for the story.

\_\_\_\_\_ and \_\_\_\_\_

- 9 Write the multiplication facts that belong to the same fact family.

\_\_\_\_\_ and \_\_\_\_\_

## Use a Multiplication Table to Solve Problems

Study the example that shows how a multiplication table can help you solve multiplication and division problems. Then solve problems 1–6.

**Example**

You can use the multiplication table to multiply or divide.

Look at the pink row of products for 4.

Look at the pink column of products for 6.

You can see how  $6 \times 4 = 24$  is related to  $24 \div 4 = 6$  and related to  $24 \div 6 = 4$ .

×	0	1	2	3	4	5	6	7	8	9
0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9
2	0	2	4	6	8	10	12	14	16	18
3	0	3	6	9	12	15	18	21	24	27
4	0	4	8	12	16	20	24	28	32	36
5	0	5	10	15	20	25	30	35	40	45
6	0	6	12	18	24	30	36	42	48	54
7	0	7	14	21	28	35	42	49	56	63
8	0	8	16	24	32	40	48	56	64	72
9	0	9	18	27	36	45	54	63	72	81

- 1 Write the fact family for the three numbers 6, 4, and 24.

$$\underline{\quad} \times \underline{\quad} = \underline{\quad} \quad \underline{\quad} \div \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \times \underline{\quad} = \underline{\quad} \quad \underline{\quad} \div \underline{\quad} = \underline{\quad}$$

- 2 Use the table or your fact family in problem 1 to fill in the missing numbers.

$$4 \times \underline{\quad} = 24 \quad 24 \div 6 = \underline{\quad}$$

$$\underline{\quad} \times 4 = 24 \quad \underline{\quad} \div 4 = 6$$

- 3 Find 21 on the table above. Use the table to fill in the missing numbers in this fact family.

$$7 \times \underline{\quad} = 21 \quad 21 \div 3 = \underline{\quad}$$

$$\underline{\quad} \times 7 = 21 \quad 21 \div \underline{\quad} = 3$$

**Vocabulary**

**multiplication and division fact family**

a group of related multiplication and division number sentences that use the same numbers.

Use the multiplication table to answer the questions.

×	0	1	2	3	4	5	6	7	8	9
0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9
2	0	2	4	6	8	10	12	14	16	18
3	0	3	6	9	12	15	18	21	24	27
4	0	4	8	12	16	20	24	28	32	36
5	0	5	10	15	20	25	30	35	40	45
6	0	6	12	18	24	30	36	42	48	54
7	0	7	14	21	28	35	42	49	56	63
8	0	8	16	24	32	40	48	56	64	72
9	0	9	18	27	36	45	54	63	72	81

- 4 What are the three numbers in the fact family for  $28 \div 4$ ? \_\_\_\_\_

Write the fact family.

$$\begin{array}{l} \_\_\_\_\_ \times \_\_\_\_\_ = \_\_\_\_\_ \quad \_\_\_\_\_ \div \_\_\_\_\_ = \_\_\_\_\_ \\ \_\_\_\_\_ \times \_\_\_\_\_ = \_\_\_\_\_ \quad \_\_\_\_\_ \div \_\_\_\_\_ = \_\_\_\_\_ \end{array}$$

- 5 What are the three numbers in the fact family for  $6 \times \_\_\_\_\_ = 42$ ? \_\_\_\_\_

Write the fact family.

$$\begin{array}{l} \_\_\_\_\_ \times \_\_\_\_\_ = \_\_\_\_\_ \quad \_\_\_\_\_ \div \_\_\_\_\_ = \_\_\_\_\_ \\ \_\_\_\_\_ \times \_\_\_\_\_ = \_\_\_\_\_ \quad \_\_\_\_\_ \div \_\_\_\_\_ = \_\_\_\_\_ \end{array}$$

- 6 What are the three numbers in the fact family for  $\_\_\_\_\_ \div 6 = 8$ ? \_\_\_\_\_

Write the fact family.

$$\begin{array}{l} \_\_\_\_\_ \times \_\_\_\_\_ = \_\_\_\_\_ \quad \_\_\_\_\_ \div \_\_\_\_\_ = \_\_\_\_\_ \\ \_\_\_\_\_ \times \_\_\_\_\_ = \_\_\_\_\_ \quad \_\_\_\_\_ \div \_\_\_\_\_ = \_\_\_\_\_ \end{array}$$

## Solve Problems with Multiplication and Division Facts

Solve the problems.

- 1 Circle the letter of the correct answer. Which fact can you use to solve  $8 = 32 \div \underline{\hspace{1cm}}$ ?

A  $4 \times 8 = 32$

C  $8 + 32 = 40$

B  $8 \times 8 = 64$

D  $32 - 8 = 24$

Anu chose **D** as the correct answer. How did he get that answer?

---



---



---

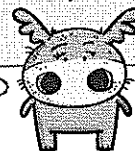


---



---

What operation is in the same family as division?



- 2 Mr. Smith is serving lunch. He has 30 carrot sticks to share evenly among 6 people. Which facts can be used to find how many carrot sticks each person gets? Circle the letter for all that apply.

A  $3 \times 10 = 30$

D  $30 \div 3 = 10$

B  $30 \div 5 = 6$

E  $30 = 5 \times 6$

C  $6 \times 5 = 30$

How many groups are in this problem?



- 3 Cross out the fact that is not in the same fact family as the others.

$2 \times 5 = 10$

$2 \times 10 = 20$

$10 \div 5 = 2$

$10 \div 2 = 5$

$10 = 5 \times 2$

How do you know if two facts are related?



**Solve.**

- 4** Write the fact family for these 3 numbers: 8, 9, 72.

$$\begin{array}{l} \underline{\quad} \times \underline{\quad} = \underline{\quad} \quad \underline{\quad} \div \underline{\quad} = \underline{\quad} \\ \underline{\quad} \times \underline{\quad} = \underline{\quad} \quad \underline{\quad} \div \underline{\quad} = \underline{\quad} \end{array}$$

If you know one fact, you can use it to find the other facts in a family.



- 5** Write the fact family for these 3 numbers: 5, 5, 25.

---

---

There is something different about this fact family.



- 6** Movie tickets cost \$6 each for children. The Mendez family has 4 children. Which equation can you use to find out how much it will cost for the Mendez children to go to the movie? Circle the letter for the correct answer.

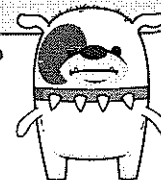
- A**  $4 \times 5 = \underline{\quad}$       **C**  $4 \times 6 = \underline{\quad}$   
**B**  $24 \div 4 = \underline{\quad}$       **D**  $6 - 4 = \underline{\quad}$

What numbers will you need to find the total cost?



- 7** Russell has a box with 35 cat treats. He gives the cats 5 treats a day. Write a fact that can help him figure out how many days the box of treats will last.

I might skip count by 5s to figure this out.



How many days will the treats last?

## Use Place Value to Round Numbers

Name: \_\_\_\_\_

**Prerequisite:** Use Place Value to Break Apart Numbers

Study the example showing the value of a three-digit number. Then solve problems 1–7.

**Example**

A digit's place in a number tells its value.

To show the value of each digit in the number 485, you can use a chart.

Hundreds	Tens	Ones
4	8	5

$$485 = 400 + 80 + 5$$

Fill in the blanks.

1  $732 = 700 + 30 + 2$

$732 = \underline{\hspace{1cm}}$  hundreds +  $\underline{\hspace{1cm}}$  tens +  $\underline{\hspace{1cm}}$  ones

2  $201 = 200 + 1$

$201 = \underline{\hspace{1cm}}$  hundreds +  $\underline{\hspace{1cm}}$  ones

3 Complete the chart. The first row is done for you.

	Hundreds	Tens	Ones
105	1	0	5
$\underline{\hspace{1cm}}$	9	1	3
$\underline{\hspace{1cm}}$	7	9	0
358	$\underline{\hspace{1cm}}$	$\underline{\hspace{1cm}}$	$\underline{\hspace{1cm}}$

**Solve.**

- 4 Complete the chart.

	<b>Hundreds</b>	<b>Tens</b>	<b>Ones</b>
322	_____	_____	_____
565	_____	_____	_____
300	_____	_____	_____

- 5 Can you solve this number riddle? Here are the clues.

- The number has 6 hundreds.
- The tens digit has a value of 50.
- The ones digit is the difference between the digits in the hundreds place and tens place.

What is the number? Circle the correct answer.

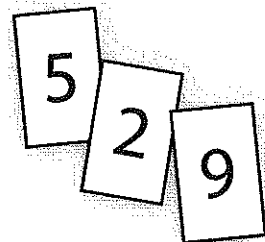
506      651      615      561

- 6 Use the three digits shown on the cards to make the greatest number you can. Use each digit once.

greatest number \_\_\_\_\_

- 7 Use the same three digits to make the least number you can. Use each digit once.

least number \_\_\_\_\_

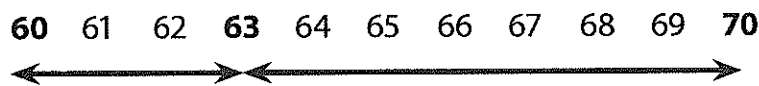


## Round to the Nearest Ten

Study the example about rounding to the nearest ten. Then solve problems 1–8.

**Example**

Robert always tells his friend how many points he earns on his video game. He rounds the number to the nearest ten. On Saturday, Robert earned 63 points. How many points did he tell his friend that he earned?

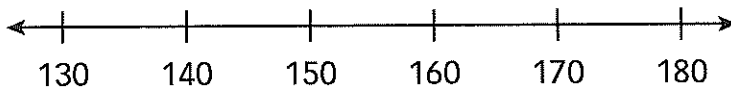


63 is between the tens 60 and 70. Since 63 is closer to 60, Robert tells his friend that he earned 60 points.

- 1 Later that afternoon, Robert spent more time playing the video game. He earned 88 points. How many points did he tell his friend that he earned?

\_\_\_\_\_

- 2 The number 157 is between which two tens? Circle the two tens on the number line.



- 3 What is 157 rounded to the nearest ten? \_\_\_\_\_

**Vocabulary**

**round (a whole number)** find the nearest ten, hundred, or other place value. For example, 28 rounds to 30, and 21 rounds to 20.

## Solve.

- 4** To earn money, you brush dogs. You are so busy that you hire your friends to help. You pay your friends \$1 for each dog they brush. You only have \$10 bills to pay them with. You must round each payment to the nearest ten. Show how much each friend gets paid.

Friend	Number of Dogs Brushed	Payment to the Nearest \$10
Jessica	12	\$ _____
Sophie	18	\$ _____
Mia	22	\$ _____

- 5** a. The number 767 is between what two tens?  
\_\_\_\_\_ and \_\_\_\_\_
- b. What number is halfway between these two tens? \_\_\_\_\_
- c. Is 767 less than or greater than the halfway number? \_\_\_\_\_
- d. Will it round up or down? \_\_\_\_\_
- e. What is 767 rounded to the nearest ten? \_\_\_\_\_
- 6** a. The number 342 is between what two tens?  
\_\_\_\_\_ and \_\_\_\_\_
- b. Will it round up or down? \_\_\_\_\_
- c. What is 342 rounded to the nearest ten? \_\_\_\_\_
- 7** What is a number less than 930 that rounds to 930?  
\_\_\_\_\_
- 8** What is a number greater than 930 that rounds to 930? \_\_\_\_\_

## Round to the Nearest Hundred

**Study the example about rounding to the nearest hundred. Then solve problems 1–10.**

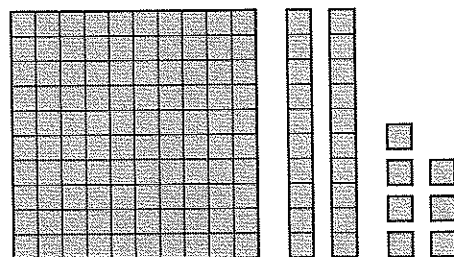
**Example**

There are 127 crayons in a bin. What is 127 rounded to the nearest hundred?

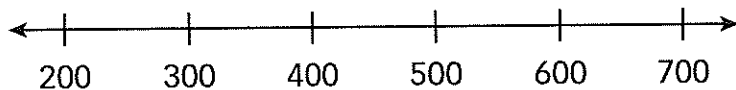
In the drawing, you can see that 127 is 1 hundred + 2 tens + 7 ones.

The number 127 is between 100 and 200. The halfway number between 100 and 200 is 150. The number 127 is less than the halfway number.

So, 127 is nearer to 100 than to 200. 100 is the nearest hundred to 127.



- 1** The number 684 is between which two hundreds?  
Circle the two hundreds on the number line.



- 2** What is the halfway number between the two hundreds you circled? \_\_\_\_\_
- 3** What is 684 rounded to the nearest hundred? \_\_\_\_\_
- 4** What is 694 rounded to the nearest hundred? \_\_\_\_\_
- 5** What is 674 rounded to the nearest hundred? \_\_\_\_\_
- 6** What is 624 rounded to the nearest hundred? \_\_\_\_\_



## Solve.

**7** Answer the questions below to round 377 to the nearest hundred.

- The number 377 is between what two hundreds? \_\_\_\_\_ and \_\_\_\_\_
- What number is halfway between these two hundreds? \_\_\_\_\_
- Is 377 less than or greater than the halfway number? \_\_\_\_\_
- Will you round up or down? \_\_\_\_\_
- What is 377 rounded to the nearest hundred? \_\_\_\_\_

**8** The chart below shows the miles between U.S. cities. Round each distance to the nearest hundred miles.

Cities	Distance in Miles	Distance to the Nearest Hundred Miles
Phoenix and Las Vegas	292	_____
Los Angeles and San Francisco	386	_____

**9** Can you solve this riddle about a number? Here are the clues.

- The number is between the two hundreds, 500 and 600.
- The number is greater than the halfway number.
- You will round up to round this number to the nearest hundred.

What is the number? Circle the correct answer.

525      575      501      650

**10** What is 999 rounded to the nearest hundred? \_\_\_\_\_



## Use Place Value to Round Numbers

Solve the problems.

- 1 A science museum has 73 exhibits. What is 73 rounded to the nearest hundred?

\_\_\_\_\_

Is 73 closer to 0 or 100?



- 2 Which two numbers, rounded to the nearest hundred, both round to 400?

- A 349 and 350  
B 449 and 450  
C 350 and 351  
D 450 and 451

Hans chose **A** as the correct answer. How could he get that answer?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Do halfway numbers round up or down?



- 3 Decide if the following numbers will round to 300. Circle Yes or No.

286 rounded to the nearest hundred	Yes or No
342 rounded to the nearest hundred	Yes or No
297 rounded to the nearest ten	Yes or No

Think about the number halfway between 200 and 300 and the number halfway between 300 and 400.

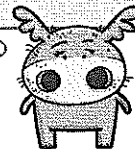


**Solve.**

- 4** Which numbers, when rounded to the nearest hundred, round to 100? Circle all that are correct.

- A** 149
- B** 49
- C** 75
- D** 162

What is the least number that rounds to 100 as the nearest hundred? What is the greatest?



- 5** According to one science museum, the world's tallest man was 8 feet 11 inches tall. That is 107 inches. His weight was 490 pounds.

What is 107 rounded to the nearest hundred?

\_\_\_\_\_

What is 490 rounded to the nearest hundred?

\_\_\_\_\_

Which two hundreds is 490 between?



- 6** Cameron read that the average American eats about 130 pounds of potatoes each year.

- a.** What is a number less than 130 that rounds to 130 when rounding to the nearest ten? \_\_\_\_\_
- b.** What is a number greater than 130 that rounds to 130 when rounding to the nearest ten? \_\_\_\_\_
- c.** What is 130 rounded to the nearest hundred?  
\_\_\_\_\_

What numbers do you say when you count by tens from 100 to 150?



## Use Place Value to Add and Subtract

Name: \_\_\_\_\_

**Prerequisite:** Add and Subtract by Breaking Apart Numbers

Study the example showing two ways to break apart numbers to subtract them. Then solve problems 1–8.

**Example**

$$\begin{array}{r} 369 \\ - 154 \\ \hline \end{array} \quad \longrightarrow \quad \begin{array}{l} 300 + 60 + 9 \\ 100 + 50 + 4 \end{array}$$

$$\begin{array}{r} 9 \text{ ones} - 4 \text{ ones} = 5 \text{ ones} \longrightarrow 5 \\ 6 \text{ tens} - 5 \text{ tens} = 1 \text{ ten} \longrightarrow 10 \\ 3 \text{ hundreds} - 1 \text{ hundred} = 2 \text{ hundreds} \longrightarrow + 200 \\ \hline 215 \end{array}$$

$$369 - 154 = 215$$

Break apart the numbers. Show the hundreds, tens, and ones.

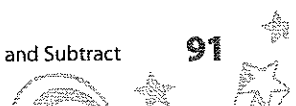
1  $324 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$

2  $497 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$

Write the numbers.

3  $2 \text{ hundreds} + 5 \text{ tens} + 6 \text{ ones} = \underline{\hspace{2cm}}$

4  $8 \text{ hundreds} + 0 \text{ tens} + 4 \text{ ones} = \underline{\hspace{2cm}}$



**Solve.**

$$\begin{array}{r} \text{5} \quad 133 \longrightarrow 100 + 30 + 3 \\ + 214 \longrightarrow 200 + 10 + 4 \\ \hline \end{array}$$

Add the ones. \_\_\_\_\_

Add the tens. \_\_\_\_\_

Add the hundreds. \_\_\_\_\_

Result: \_\_\_\_\_

$$133 + 214 = \underline{\hspace{2cm}}$$

$$\begin{array}{r} \text{6} \quad 789 \longrightarrow 700 + 80 + 9 \\ - 506 \longrightarrow 500 + 0 + 6 \\ \hline \end{array}$$

Subtract the ones. \_\_\_\_\_

Subtract the tens. \_\_\_\_\_

Subtract the hundreds. \_\_\_\_\_

Result: \_\_\_\_\_

$$789 - 506 = \underline{\hspace{2cm}}$$

$$\begin{array}{r} \text{7} \quad 517 \\ + 321 \\ \hline \end{array}$$

$$\begin{array}{r} \text{8} \quad 845 \\ - 243 \\ \hline \end{array}$$

Use Place Value to Add

Study the example problem showing how regrouping can help you add three-digit numbers. Then solve problems 1–8.

**Example**

On the weekend, 172 adults and 253 children went to the fair. How many people went to the fair on the weekend?

$$\begin{array}{r} 172 \\ + 253 \\ \hline \end{array}$$

$$\begin{array}{l} 5 \longrightarrow 2 \text{ ones} + 3 \text{ ones} \\ 120 \longrightarrow 7 \text{ tens} + 5 \text{ tens} \\ 300 \longrightarrow 1 \text{ hundred} + 2 \text{ hundreds} \\ \hline 425 \end{array}$$

	1	7	2
+	2	5	3
	4	2	5

Regroup  
10 tens

Fill in the blanks to add.

1

$$\begin{array}{r} 124 \\ + 253 \\ \hline \end{array}$$

$$\begin{array}{l} \longrightarrow 4 \text{ ones} + 3 \text{ ones} = 7 \text{ ones} \\ \longrightarrow 2 \text{ tens} + 5 \text{ tens} = 7 \text{ tens} \\ \longrightarrow 1 \text{ hundred} + 2 \text{ hundreds} = 3 \text{ hundreds} \\ \hline 377 \end{array}$$

2

	1		
	4	5	9
+	2	6	0
		1	

Solve. Fill in the blanks to add.

3      $631 \longrightarrow 600 + \underline{\quad} + 1$   
 $+ 368 \longrightarrow \underline{\quad} + 60 + 8$   


---

 $900 + 90 + \underline{\quad} = \underline{\quad}$

4      $167 \longrightarrow \underline{\quad} + \underline{\quad} + 7$   
 $+ 208 \longrightarrow \underline{\quad} + 0 + \underline{\quad}$   


---

 $\underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$

5

	2	2	8
+	1	3	6
<hr/>			

7

$$\begin{array}{r} 151 \\ + 154 \\ \hline \end{array}$$

6

	2	5	1
+	2	5	4
<hr/>			
			5
	1	0	0
	4	0	0
<hr/>			

8

$$\begin{array}{r} 368 \\ + 245 \\ \hline 300 + \underline{\quad} + 8 \\ \underline{\quad} + 40 + 5 \\ \hline 500 + 100 + \underline{\quad} = \underline{\quad} \end{array}$$

## Use Place Value to Subtract

Study the example showing how place value can help you subtract three-digit numbers. Then solve problems 1–6.

**Example**

The balloon artist at the fair sold 253 balloons. Of those, 129 were monster heads. How many balloons were not monster heads?

$$\begin{array}{r} 253 \\ - 129 \\ \hline \end{array}$$

$253 = 2 \text{ hundreds} + 5 \text{ tens} + 3 \text{ ones}$   
**or**  $253 = 2 \text{ hundreds} + 4 \text{ tens} + 13 \text{ ones}$   
 $129 = 1 \text{ hundred} + 2 \text{ tens} + 9 \text{ ones}$   
 $253 - 129 = 1 \text{ hundred} + 2 \text{ tens} + 4 \text{ ones}$

124 balloons were not monster heads.

Fill in the blanks to add.

**1**  $\begin{array}{r} 352 \\ - 147 \\ \hline \end{array}$   $352 = \underline{\hspace{1cm}} \text{ hundreds} + \underline{\hspace{1cm}} \text{ tens} + 2 \text{ ones}$   
**or**  $352 = \underline{\hspace{1cm}} \text{ hundreds} + \underline{\hspace{1cm}} \text{ tens} + \underline{\hspace{1cm}} \text{ ones}$   
 $147 = \underline{\hspace{1cm}} \text{ hundred} + \underline{\hspace{1cm}} \text{ tens} + \underline{\hspace{1cm}} \text{ ones}$

Subtract hundreds:  $\underline{\hspace{1cm}}$  hundreds

Subtract tens: 0 tens

Subtract ones:  $\underline{\hspace{1cm}}$  ones

$352 - 147 = \underline{\hspace{1cm}}$

**2**  $\begin{array}{r} 459 \\ - 260 \\ \hline \end{array}$   $459 = \underline{\hspace{1cm}} \text{ hundreds} + \underline{\hspace{1cm}} \text{ tens} + 9 \text{ ones}$   
**or**  $459 = \underline{\hspace{1cm}} \text{ hundreds} + \underline{\hspace{1cm}} \text{ tens} + \underline{\hspace{1cm}} \text{ ones}$   
 $260 = \underline{\hspace{1cm}} \text{ hundreds} + \underline{\hspace{1cm}} \text{ tens} + \underline{\hspace{1cm}} \text{ ones}$

Subtract hundreds:  $\underline{\hspace{1cm}}$  hundred

Subtract tens:  $\underline{\hspace{1cm}}$  tens

Subtract ones:  $\underline{\hspace{1cm}}$  ones

$459 - 260 = \underline{\hspace{1cm}}$

**Solve.**

**3**    
$$\begin{array}{r} 621 \\ - 570 \\ \hline \end{array}$$
     $621 = \underline{\hspace{1cm}} \text{ hundreds} + \underline{\hspace{1cm}} \text{ tens} + \underline{\hspace{1cm}} \text{ one}$   
or         $5 \text{ **hundreds**} + 12 \text{ **tens**} + \underline{\hspace{1cm}} \text{ **one**}$   
 $570 = \underline{\hspace{1cm}} \text{ **hundreds**} + \underline{\hspace{1cm}} \text{ **tens**} + \underline{\hspace{1cm}} \text{ **ones**}$

Subtract hundreds:  $\underline{\hspace{1cm}}$  hundreds

Subtract tens:  $\underline{\hspace{1cm}}$  tens

Subtract ones:  $\underline{\hspace{1cm}}$  one

$621 - 570 = \underline{\hspace{2cm}}$

**4**    
$$\begin{array}{r} 905 \\ - 425 \\ \hline \end{array}$$
     $905 = \underline{\hspace{1cm}} \text{ hundreds} + \underline{\hspace{1cm}} \text{ tens} + \underline{\hspace{1cm}} \text{ ones}$   
or         $\underline{\hspace{1cm}} \text{ **hundreds**} + 10 \text{ **tens**} + \underline{\hspace{1cm}} \text{ **ones**}$   
 $425 = \underline{\hspace{1cm}} \text{ **hundreds**} + \underline{\hspace{1cm}} \text{ **tens**} + \underline{\hspace{1cm}} \text{ **ones**}$

Subtract hundreds:  $\underline{\hspace{1cm}}$  hundreds

Subtract tens:  $\underline{\hspace{1cm}}$  tens

Subtract ones:  $\underline{\hspace{1cm}}$  ones

$905 - 425 = \underline{\hspace{2cm}}$

**Subtract. Regroup if needed.**

**5**    
$$\begin{array}{r} 252 \\ - 136 \\ \hline \end{array}$$

**6**    
$$\begin{array}{r} 636 \\ - 158 \\ \hline \end{array}$$

Use this space to  
rewrite the numbers  
if you want to.



## Add On to Subtract

Study the example showing how to subtract by adding on. Then solve problems 1–8.

**Example**

310 students went to the art museum. 195 students left at 9 A.M. The others left at 9:30 A.M. How many students left for the museum at 9:30 A.M.?

$$310 - 195 = \square, \text{ or } 195 + \square = 310$$

**Add on to 195 to get to 310.**

Add 5:  $195 + 5 = 200$

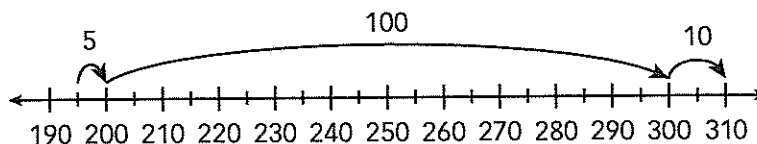
Add 100:  $200 + 100 = 300$

Add 10:  $300 + 10 = 310$

$$5 + 100 + 10 = 115$$

$$195 + 115 = 310 \quad 310 - 195 = 115$$

So, 115 students left at 9:30.



Fill in the blanks to show adding on to subtract.

1  $75 + 5 + \underline{\hspace{2cm}} = 100$ , so  $100 - 75 = \underline{\hspace{2cm}}$

2  $114 + 6 + \underline{\hspace{2cm}} + \underline{\hspace{2cm}} = 132$ , so  
 $132 - 114 = \underline{\hspace{2cm}}$

3  $162 + 8 + \underline{\hspace{2cm}} + 1 = 201$ , so  $201 - 162 = \underline{\hspace{2cm}}$

**Solve.**

4  $501 - 470 = \underline{\hspace{2cm}}$

Explain how you can start with 470 and add on to solve.

---



---



---

**Solve.**

**5**  $100 - 78 = \underline{\hspace{2cm}}$

Explain how you can start with 78 and add on to solve.

---

---

---

**6**  $200 - 96 = \underline{\hspace{2cm}}$

Explain how you can start with 96 and add on to solve.

---

---

---

**7**  $305 - 296 = \underline{\hspace{2cm}}$

Explain how you can start with 296 and add on to solve.

---

---

---

**8**  $303 - 196 = \underline{\hspace{2cm}}$

Explain how you can start with 196 and add on to solve.

---

---

---

---

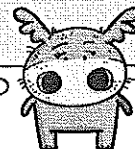
## Use Place Value to Add and Subtract

Solve the problems.

- 1 For the recycling project, Ben's class collected 192 glass bottles and 340 plastic bottles. How many bottles did they collect in all? Which two number sentences could you use to solve the problem.

- A  $(100 + 90 + 2) + (300 + 40) = \square$   
 B  $(300 + 4) + (100 + 9 + 2) = \square$   
 C  $(1 + 3) + (9 + 4) + (2 + 0) = \square$   
 D  $(100 + 300) + (90 + 40) + (2 + 0) = \square$

How does understanding place value help with this problem?



- 2 For the recycling project, Karen's class collected 234 cans and 120 cardboard boxes. How many more cans than boxes did they collect? Which two number sentences could you use to solve the problem.

- A  $234 + \square = 120$   
 B  $120 + \square = 234$   
 C  $\square + 234 = 120$   
 D  $234 - 120 = \square$

Can you estimate to figure out what the answer could be?



- 3 Students at Haley's school collected labels from cans. The third grade collected 278 labels and the fourth grade collected 219 labels. How many labels did they collect in all?

**Show your work.**

Do you need to regroup?



**Solution:** \_\_\_\_\_

## Solve.

- 4 At the recycling fair, 193 glasses of orange juice and 270 glasses of lemonade were sold. How many more glasses of lemonade were sold than glasses of orange juice?

**Show your work.**

Could you use adding on to solve this problem?



**Solution:** \_\_\_\_\_

- 5 On the last day of the recycling fair, 257 children and 145 adults went to the concert. How many people went to the concert?

A 302

C 402

B 392

D 492

Cindy chose **A** as the correct answer. How could she get that answer? \_\_\_\_\_

---

---

---

Did Cindy regroup?



- 6 Look at problem 5. How many more children than adults went to the concert?

**Show your work.**

Will your answer be more or less than 100?



**Solution:** \_\_\_\_\_

## Use Place Value to Multiply

Name: \_\_\_\_\_

**Prerequisite:** Break Apart Numbers to Multiply

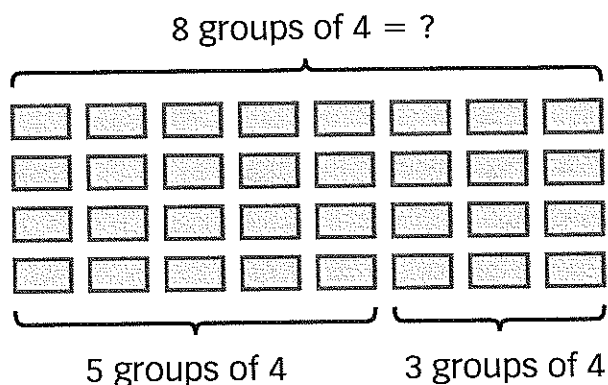
Study the example showing how to break apart numbers to multiply them. Then solve problems 1–14.

**Example**

Jojo is learning his multiplication facts. He needs to know  $8 \times 4$ . He already knows  $5 \times 4 = 20$  and he knows  $3 \times 4 = 12$ . Since  $5 + 3 = 8$ , he can add  $20 + 12$  to find  $8 \times 4$ .

$$20 + 12 = 32$$

$$8 \times 4 = 32$$



- 1 Jordan solved  $6 \times 5$  by breaking apart the 6 into  $5 + 1$ . Which of the following correctly shows the next step to find the solution? Circle the letter of the correct answer.

- A  $(5 \times 6) + (1 \times 6)$       C  $(6 \times 5) + (1 \times 5)$   
 B  $(5 + 6) + (1 + 6)$       D  $(5 \times 5) + (1 \times 5)$

Fill in the blanks to complete the number sentences.

2  $8 \times 5 = (4 \times 5) + (\text{_____} \times 5)$

$$8 \times 5 = 20 + \text{_____}$$

$$8 \times 5 = \text{_____}$$

3  $7 \times 8 = (\text{_____} \times 8) + (5 \times 8)$

$$7 \times 8 = \text{_____} + 40$$

$$7 \times 8 = \text{_____}$$

## Solve.

Jenna has 6 packs of 7 pencils. To find out how many pencils she has, she writes,  $6 \times 7 = ?$  Fill in the blanks to show how Jenna could figure out  $6 \times 7$  using other facts she may know.

4  $6 \times 7 = (3 \times 7) + (\quad \times 7)$

$6 \times 7 = \quad + \quad$

$6 \times 7 = \quad$

5  $6 \times 7 = (6 \times 5) + (6 \times \quad)$

$6 \times 7 = \quad + \quad$

$6 \times 7 = \quad$

- 6 Use the array to show another way Jenna could break apart these numbers to find  $6 \times 7$ .

- 7 Complete the number sentence to show how you broke apart the array into two smaller arrays.

$6 \times 7 = (\quad \times \quad) + (\quad \times \quad)$

Fill in the blanks to write the numbers in a different way.

8 10 tens =  $\quad$

9 50 tens =  $\quad$

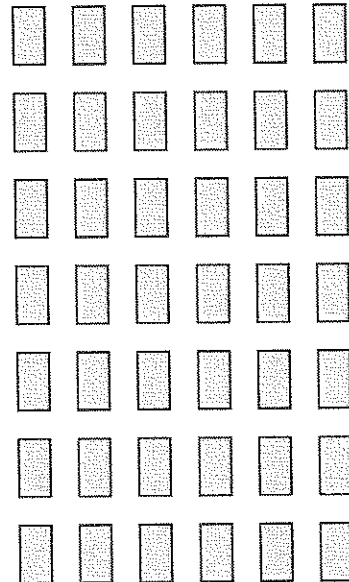
10 200 =  $\quad$  tens

11 210 =  $\quad$  tens

12 240 =  $\quad$  tens

13 25 tens =  $\quad$

14 63 tens =  $\quad$



## Break Numbers into Tens and Ones to Multiply

Study the example showing how you can break a number into tens and ones to help you multiply. Then solve problems 1–8.

**Example**

Hobbit's Hobby Store has 4 shelves of glue. Each shelf has 30 bottles of glue. How many bottles of glue are on the shelves?

You can use factors and grouping.

$$4 \times 30$$

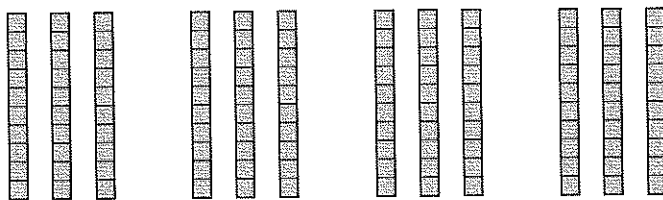
$$4 \times (3 \times 10)$$

$$(4 \times 3) \times 10$$

$$12 \times 10 = 120$$

There are 120 bottles of glue on the shelves.

30 bottles on each shelf.

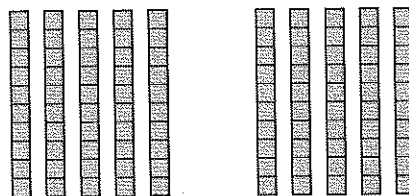


4 groups of 3 tens  
or 12 tens.  
12 tens is 120.

The hobby store has 3 boxes of wheels. There are 50 wheels in each box. How many wheels does the hobby store have?



- 1 You can write 50 as \_\_\_\_\_  $\times 10$ .
- 2  $3 \times (5 \times 10)$  is one way to group the factors. Use parentheses to show another way to group the factors.  
  
 $3 \times 5 \times 10$
- 3  $3 \times 5 \times 10 =$  \_\_\_\_\_  $\times 10$
- 4 The hobby store has \_\_\_\_\_ wheels.



**Solve.**

- 5** Draw a line to match each problem with another way to write it.

$5 \times 60$

$(4 \times 3) \times 10$

$6 \times 40$

$10 \times (5 \times 4)$

$50 \times 4$

$(5 \times 6) \times 10$

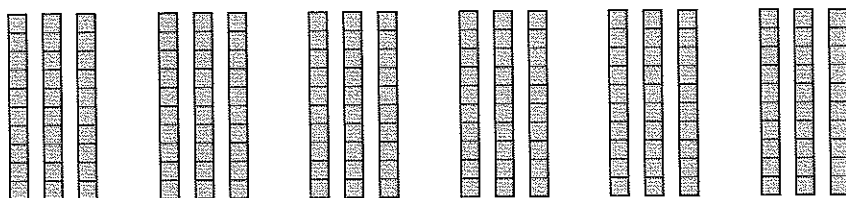
$6 \times 30$

$(6 \times 3) \times 10$

$40 \times 3$

$(6 \times 4) \times 10$

- 6** Write the multiplication sentence that the base-ten models show.



*Multiplication sentence:* \_\_\_\_\_

- 7** Fill in the blanks to show how to find  $4 \times 70$ .

$$\begin{aligned} 4 \times 70 &= 4 \times (\underline{\quad} \times 10) \\ &= (4 \times \underline{\quad}) \times 10 \\ &= 28 \times 10 = \underline{\quad} \end{aligned}$$

$4 \times 70 = \underline{\quad}$

- 8**  $6 \times 20 = \underline{\quad}$

**Show your work.**

*Solution:* \_\_\_\_\_

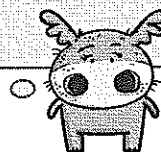
## Use Place Value to Multiply

Solve the problems.

- 1 There are 6 rows of students at the play. Each row has 40 students. How many students are at the play?

**Show your work.**

$6 \times 40$  is  
6 groups of  
 $4 \times 10$ .



Solution: \_\_\_\_\_ students are at the play.

- 2 Tyra bakes some cookies. Each cookie tray has 30 cookies. She uses 5 cookie trays. How many cookies does she bake?

**Show your work.**

30 is equal to  
10 times what  
number?



Solution: She bakes \_\_\_\_\_ cookies.

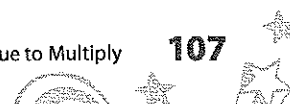
- 3 Six buses of students visit Butterfly Wonderland. Each bus holds 30 students. How many students visit Butterfly Wonderland?

**Show your work.**

What basic  
multiplication fact  
will help you solve  
this problem?



Solution: \_\_\_\_\_ students visit Butterfly Wonderland.



## Solve.

- 4 The snack bar at the soccer field has 7 boxes of protein bars. There are 20 bars in each box. How many bars are there in all the boxes?

A 27 bars                      C 140 bars  
B 13 bars                      D 280 bars

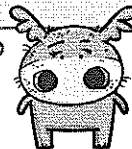
Simon chose **A** as the correct answer. How did he get that answer?

---

---

---

What operation should you use?



- 5 Lauren makes bracelets using small beads. She uses 60 beads for each bracelet. How many beads does Lauren need to make 7 bracelets?

A 42 beads                      C 420 beads  
B 67 beads                      D 670 beads

It would help to know  $6 \times 7$  for this problem.



- 6 Explain how you figured out the correct answer to problem 5.

---

---

---

---

---

---

Did you break apart a number?



## Solve Two-Step Word Problems Using the Four Operations

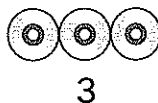
Name: \_\_\_\_\_

## Prerequisite: Model Two-Step Word Problems

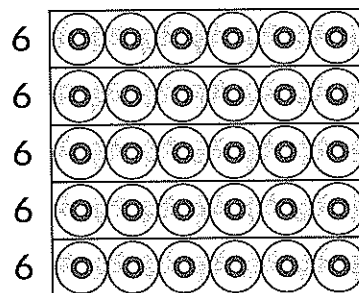
Study the example problem showing how to model a two-step word problem. Then solve problems 1–5.

## Example

The art shop was almost out of rolls of tape. There were only 3 rolls left. The owner ordered 5 boxes with 6 rolls in each box. How many rolls of tape are there now?



+



$$5 \times 6 = 30$$

$$30 + 3 = 33$$

There are 33 rolls of tape now.

- 1 Each box of party invitations costs \$6. Jenny bought 3 boxes of invitations. She paid with a \$20 bill. Complete the number sentences to find how much change Jenny got.

$$3 \times \$\_\_\_\_\_\_ = \$\_\_\_\_\_\_$$

$$\$20 - \$\_\_\_\_\_\_ = \$\_\_\_\_\_\_$$

Jenny got \$\_\_\_\_\_ in change.

- 2 There are 2 baskets, each holding 4 bags of bows. Each bag costs \$3. Mr. Holms bought all of the bags. Complete the number sentences to find out how much he spent on bows.

$$2 \times \_\_\_\_\_\_ = \_\_\_\_\_\_$$

$$\_\_\_\_\_\_ \times \$3 = \$\_\_\_\_\_\_$$

He spent \$\_\_\_\_\_ on bows.

**Solve.**

- 3** Packages of party napkins are \$4 each. Bags of party cups are \$6 each. Mrs. Laurey bought 2 packages of party napkins and 1 package of party cups. How much did she spend in all?

Write number sentences, then write the solution.

*Number sentences:* \_\_\_\_\_

*Solution:* She spent \$ \_\_\_\_\_.

- 4** The gift shop sells red and white paper plates. They have 20 packs of red plates and 28 packs of white plates. All packs of plates are on 6 shelves with the same number of packs on each shelf. How many packs of plates are on each shelf?

**Show your work.**

*Solution:* There are \_\_\_\_\_ packs on each shelf.

- 5** Large tablecloths are \$12 each. Small ones are \$8 each. How many small tablecloths can you buy for the same price as two large tablecloths?

**Show your work.**

*Solution:* You can buy \_\_\_\_\_ small tablecloths.



## Solve Two-Step Problems

Study the example problem showing how to solve a two-step word problem. Then solve problems 1–5.

**Example**

Students in the science club raised \$210 for lab equipment. They bought 7 packs of batteries for \$9 each. How much money did they have left?

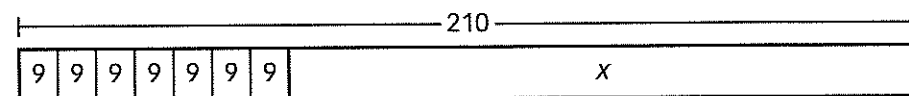
$X$  is how much money was left.

$$7 \times 9 + X = 210$$

$$63 + X = 210$$

$$210 - 63 = X$$

$$210 - 63 = 147$$



They have \$147 left.

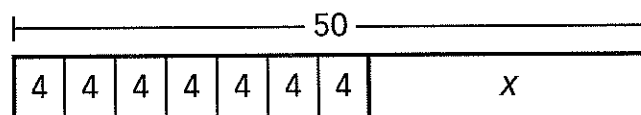
- 1 Mrs. Horn needs 50 rulers for the art room. She has 7 packs with 4 rulers in each pack. How many more rulers does she need? Complete the number sentences to solve the problem.

$X$  is how many more rulers she needs.

$$7 \times \boxed{\phantom{00}} + X = 50$$

$$\boxed{\phantom{00}} + X = 50$$

$$\boxed{\phantom{00}} - \boxed{\phantom{00}} = X, \text{ and } X = \boxed{\phantom{00}}$$



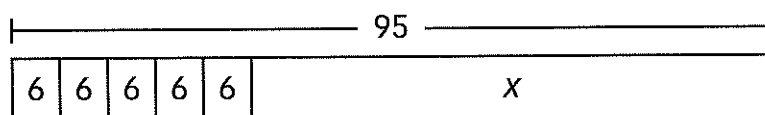
**Solution:** Mrs. Horn needs \_\_\_\_\_ more rulers.

- 2 The principal wants to buy a banner that costs \$95. Five parents each donate \$6 for the banner. How much more money is needed? Complete the number sentences to solve the problem.

$$\boxed{\phantom{00}} \times \boxed{\phantom{00}} + X = 95$$

$$\boxed{\phantom{00}} + X = 95$$

$$X = \boxed{\phantom{00}}$$



**Solution:** They need \_\_\_\_\_ more.

**Solve.**

- 3** A camp needs 100 students to help with the 4-year old campers. Eight students from 4 different classes have agreed to help. How many more students are needed?

**Show your work.**

*Solution:* \_\_\_\_\_

- 4** The music teacher had \$75. He bought 4 folk song books for \$9 each. Does he have enough money to buy a music stand for \$49? If not, how much more money does he need?

**Show your work.**

*Solution:* \_\_\_\_\_

- 5** Mr. Berg bought 5 number puzzles and 3 word puzzles for his students. The puzzles were \$7 each. Mr. Berg used a \$60 gift card to pay for the puzzles. How much change did he get?

**Show your work.**

*Solution:* \_\_\_\_\_

## Estimate Solutions to Two-Step Word Problems

Study the example showing how to estimate the solution to a two-step word problem. Then solve problems 1–4.

**Example**

The city garden has red and pink rose bushes. There are 119 red rose bushes. There are 17 fewer pink rose bushes than red rose bushes. About how many rose bushes are in the city garden?

Round to the nearest 10 and solve.

119 rounds to 120 and 17 rounds to 20.

I know  $120 - 20$  is 100,

so I *estimate* 100 pink rose bushes.

I know  $120 + 100 = 220$ ,

so I *estimate* 220 rose bushes.

$$119 + (119 - 17) = X$$

$$119 + 102 = X \text{ and } X = 221$$

The actual number of rose bushes in the garden is 221.

That's close to 220, so 221 is reasonable.

**Rose Bushes**

Red	Pink
119	$119 - 17$
(about 120)	(about $120 - 20$ , or 100)

For the concert, 109 adult tickets were sold.  
67 more student tickets were sold than adult tickets. How many tickets were sold in all?

- Complete the chart to show the information in the problem. Round to the nearest hundred.
- Write a number sentence to estimate the total number of tickets sold. Then find the actual total.

$$\underline{\hspace{2cm}} = X$$

$$\underline{\hspace{2cm}} = X$$

*Solution:* About \_\_\_\_\_ tickets were sold.

Really, \_\_\_\_\_ tickets were sold.

**Tickets Sold**

Adults	Students
(about _____)	(about _____ + _____)

## Solve.

- 3 In the school parking lot there were 113 fewer bikes than cars. There were 185 cars. How many cars and bikes were in the parking lot?

Round to the nearest ten to estimate. Then complete the chart.

Cars	Bikes
185	$185 - 113$
(about 190)	(about $190 - \underline{\hspace{2cm}}$ , or $\underline{\hspace{2cm}}$ )

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} - \underline{\hspace{2cm}} = X$$

$$X = \underline{\hspace{2cm}}$$

*Estimate:* There were about  $\underline{\hspace{2cm}}$  cars and bikes.

*Actual:*  $\underline{\hspace{2cm}} + \underline{\hspace{2cm}} - \underline{\hspace{2cm}} = X$

$$X = \underline{\hspace{2cm}}$$

*Solution:* There were  $\underline{\hspace{2cm}}$  cars and bikes in all.

- 4 Sarah read 215 pages of her book during the first week of vacation. During the second week she read 62 more pages than in the first week. How many pages did she read in the two weeks? Round to the nearest ten to estimate, then solve.

**Show your work.**

*Estimate:* She read about  $\underline{\hspace{2cm}}$  pages during the two weeks.

*Actual:*  $\underline{\hspace{10cm}}$

*Solution:* Sarah read  $\underline{\hspace{2cm}}$  pages.

## Estimate and Solve Two-Step Word Problems

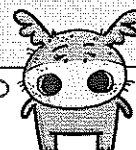
Solve the problems.

- 1 Students collected cans to make robots. They collected 127 small cans. They collected 47 fewer large cans than small cans.

Which number sentence could you use to figure out the total number of cans?  $X$  is the unknown number of cans.

- A  $127 - 47 = X$       C  $89 + 80 = X$   
 B  $127 + 127 + 47 = X$       D  $127 + 127 - 47 = X$

What's a good estimate of the total number of cans?



- 2 Jen has to put 180 cards into boxes of 6 cards each. She puts 150 cards into boxes.

Which number sentence could you use to figure out how many more boxes Jen needs?  $B$  stands for the unknown number of boxes.

- A  $180 = 6 \times B$       C  $6 \times B + 180 = 150$   
 B  $150 + 6 \times B = 180$       D  $180 + 150 = 6 \times B$

How many cards are not in boxes?



- 3 An oil paint set costs \$45 more than an easel. An easel costs \$129. What is the total cost of the oil paint set and the easel?

**Show your work.**

To figure out the cost of the oil paint set, should you add or subtract?



**Solution:** \_\_\_\_\_

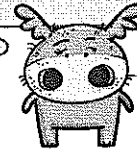
## Solve.

- 4 Sam has 223 postcards from all around the world. He has 9 sets of 8 cards from countries in Africa. How many of Sam's cards are not from Africa?

**Show your work.**

**Solution:** \_\_\_\_\_

How can you figure out the number of cards from Africa?



- 5 A group of people walked 62 miles in Week 1 and 58 miles in Week 2. In Week 3, they walked 14 miles less than during Week 2. How many miles did the group walk in 3 weeks?

**Show your work.**

**Solution:** \_\_\_\_\_

What do you need to know to figure out the total for 3 weeks?



- 6 Donna used 30 buttons of different colors and sizes to make a design. She used 12 large blue buttons. The rest were small and yellow or small and green. There were the same number of yellow and green buttons. How many buttons were small and yellow?

- A 9                      C 18  
B 22                     D 42

Javy chose **C** as the correct answer. How did he get that answer?

---

---

---

Which answers don't make sense?



# Understand Fractions on a Number Line

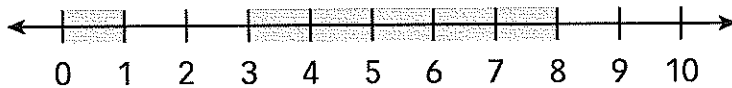
Name: \_\_\_\_\_

**Prerequisite:** How can you place whole numbers on a number line?



**Study the example showing points and sections on a number line. Then solve problems 1–6.**

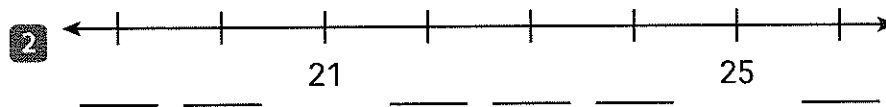
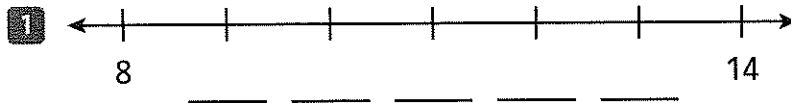
## Example



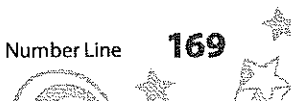
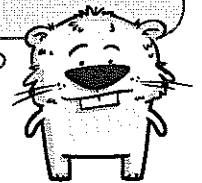
The part of the number line between 0 and 1 shows one whole.

The part of the number line between 3 and 8 shows 5 wholes.

**Label the number lines with the missing numbers.**

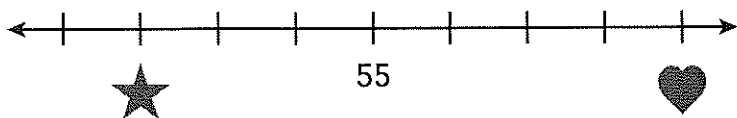


Remember, the numbers on a number line are greater as you move from left to right.



**Solve.**

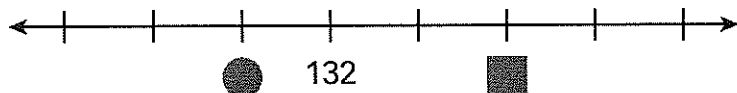
- 3** This number line counts by ones. Write the numbers for the star and the heart.



Star \_\_\_\_\_

Heart \_\_\_\_\_

- 4** This number line counts by ones. Write the numbers for the circle and the square.



Circle \_\_\_\_\_

Square \_\_\_\_\_

**Some marks are hidden on these number lines.**

**Estimate. Choose the number marked by the star.**



**A** 1

**C** 8

**B** 5

**D** 2



**A** 2

**C** 5

**B** 4

**D** 6

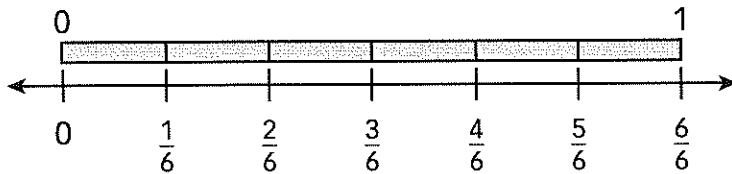
### Use Equal Groups on a Number Line to Think About Fractions

Study how the example shows fractions on a number line. Then solve problems 1–12.

#### Example

The number line shows just the section from 0 to 1.

That is one whole.

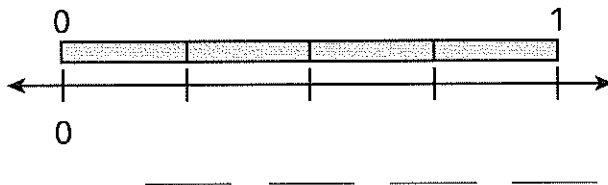


There are 6 equal parts in this section.

Each part is  $\frac{1}{6}$  of the whole.

To label the marks, count like you do with whole numbers.

Use this number line to answer problems 1–4.

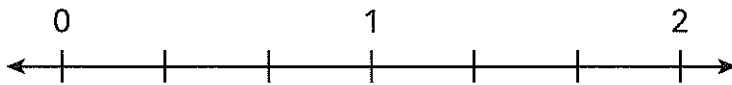


- 1 How many equal parts are there in this whole? \_\_\_\_\_
- 2 What fraction does each part show? \_\_\_\_\_
- 3 Label the marks on the number line.
- 4 What is another name for 1? \_\_\_\_\_

#### Vocabulary

**fraction** a number that names part of a whole..

Use this number line to answer problems 5–8.



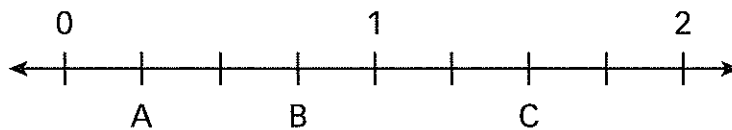
5 How many equal parts are between 0 and 1? \_\_\_\_\_

6 How many equal parts are between 1 and 2? \_\_\_\_\_

7 What fraction does each part show? \_\_\_\_\_

8 Write fractions to label the marks.

Use this number line to answer problems 9–11.



9 A is \_\_\_\_\_.

10 B is \_\_\_\_\_.

11 C is \_\_\_\_\_.

12 Write the fraction  $\frac{3}{2}$  where it belongs on this number line.



Explain how you knew where to put  $\frac{3}{2}$ .

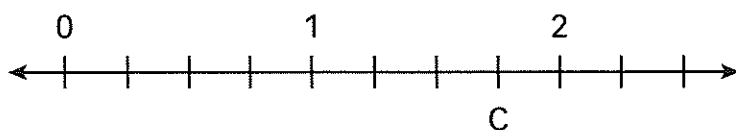
---

---

## Reason and Write

Study the example problem. Underline two parts that you think make it a particularly good answer and a helpful example.

## Example



Peter said, "The fraction for point C is  $\frac{3}{4}$ ."

Steve said, "The fraction for point C is  $\frac{7}{4}$ ."

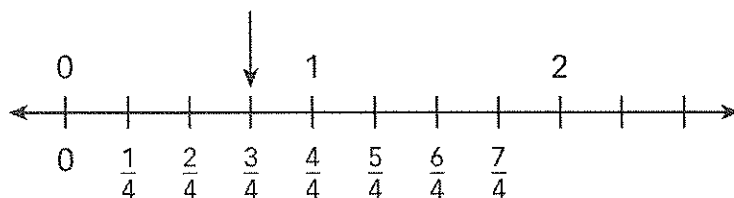
Who is right? How did you decide?

Who is wrong? What is the mistake?

Show your work. Use pictures, words, or numbers to explain how you decided what to draw.

Peter's answer is wrong. Peter saw that each whole is separated into 4 equal parts. So he knows that the denominator of the fractions is 4 and he has to count fourths.

Peter's mistake was he started counting fourths at 1 instead of at 0. The point for  $\frac{3}{4}$  is closer to 0, where I drew it below.



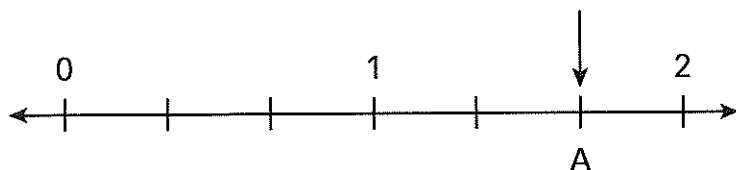
Steve was right. He knew that the denominator is 4 and he has to count fourths. He started counting with 0. From 0 to C there are 7 fourths. The fraction for point C is  $\frac{7}{4}$ .

Where does the example...

- use a picture to explain?
- use numbers to explain?
- use words to explain?
- give details?



**Solve the problem. Use what you learned from the example.**



Jackie said that the fraction for point **A** is  $\frac{5}{6}$ .

Ann said that the fraction for point **A** is  $\frac{5}{3}$ .

Who is right? Tell how you know.

Who is wrong? What is the mistake?

**Show your work.** Use pictures, words, or numbers to explain how you decided what to draw.

Did you ...

- use a picture to explain?
- use numbers to explain?
- use words to explain?
- give details?



# Understand Equivalent Fractions

Name: \_\_\_\_\_

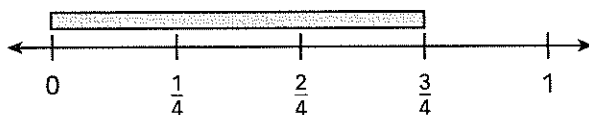
Prerequisite: How can you model fractions?



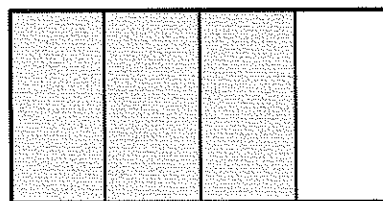
Study the example showing a fraction with a number line and with a shaded shape. Then solve problems 1–6.

## Example

Here are two models that show  $\frac{3}{4}$ .

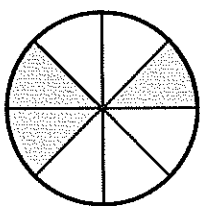


This section on the number line shows  $\frac{3}{4}$ .

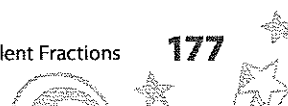
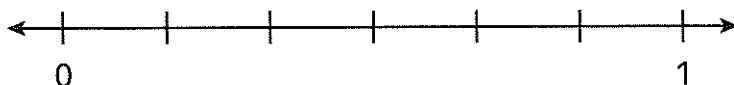


3 parts shaded  
4 equal parts in the whole  
The fraction is  $\frac{3}{4}$ .

- 1 What fraction of the circle is shaded? \_\_\_\_\_



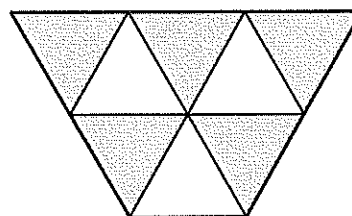
- 2 Label the marks on the number line with fractions.  
Draw a section to show  $\frac{3}{6}$ .



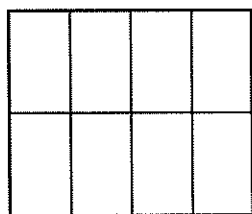
**Solve.**

- 3 What part of the whole shape is shaded?

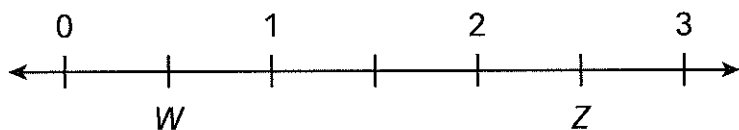
Write the fraction. \_\_\_\_\_



- 4 Shade to show  $\frac{7}{8}$  of the rectangle. Write the fraction for the part that is **not** shaded. \_\_\_\_\_

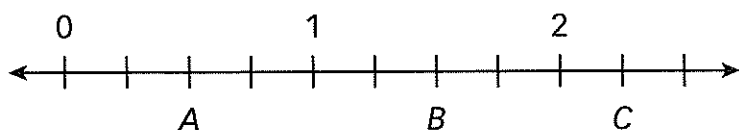


- 5 Tell whether each statement is correct. Choose Yes or No.



- a. The fraction for point  $W$  is  $\frac{1}{2}$ . ☐ Yes ☐ No
- b. The fraction for point  $W$  is 2. ☐ Yes ☐ No
- c. The fraction for point  $Z$  is  $\frac{6}{2}$ . ☐ Yes ☐ No
- d. The fraction for point  $Z$  is  $\frac{5}{2}$ . ☐ Yes ☐ No

- 6 Write the fraction for each letter on the number line. There may be more than one correct answer.



**A** \_\_\_\_\_

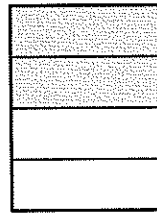
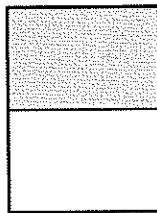
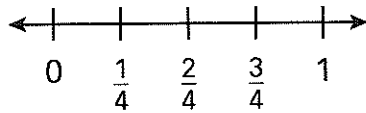
**B** \_\_\_\_\_

**C** \_\_\_\_\_

# Show Equivalent Fractions

Study how the example shows equivalent fractions with shaded shapes and number lines. Then solve problems 1–5.

## Example



$\frac{1}{2}$  and  $\frac{2}{4}$  are at the same place on the number lines.

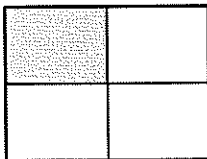
Both rectangles have the same amount of shading.

$\frac{1}{2}$  is equivalent to  $\frac{2}{4}$ .

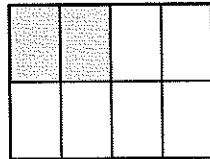
$\frac{1}{2}$  is equivalent to  $\frac{2}{4}$ .

**1** Do these shapes show equivalent fractions? Circle Yes or No.

A.



$\frac{1}{4}$

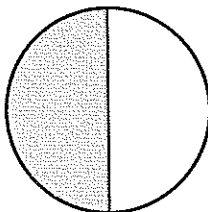


$\frac{2}{8}$

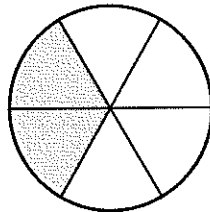
Yes

No

B.



$\frac{1}{2}$



$\frac{2}{6}$

Yes

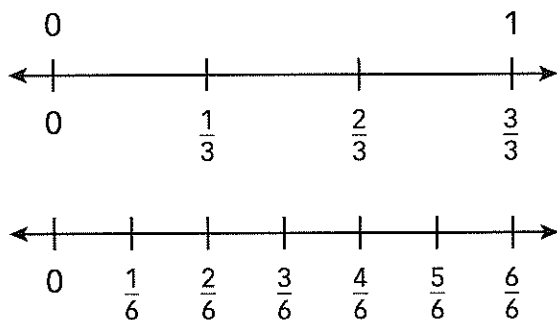
No

## Vocabulary

**equivalent fractions**  
fractions that name the same number.

$\frac{1}{2}$  and  $\frac{2}{4}$  are equivalent.

**Solve. Use the number lines to identify equivalent fractions in problems 2 and 3.**

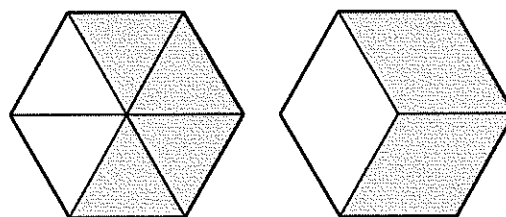


**2**  $\frac{2}{6} =$  \_\_\_\_\_

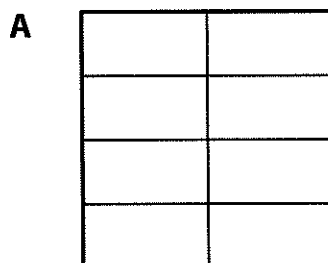
**3**  $\frac{2}{3} =$  \_\_\_\_\_

- 4** Look at the fractions shown by the shaded hexagons. Write equivalent fractions for the shaded parts.

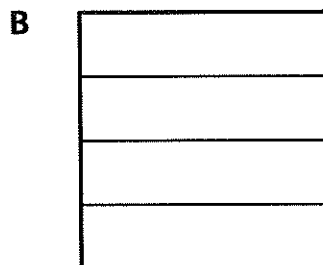
$$\frac{\square}{\square} = \frac{\square}{\square}$$



- 5** Shade  $\frac{6}{8}$  of rectangle A.



Shade rectangle B to show a fraction equivalent to  $\frac{6}{8}$ .



Write the equivalent fraction. \_\_\_\_\_

## Reason and Write

**Study the example problem. Underline two parts that you think make it a particularly good answer and a helpful example.**

**Example**

Arlene drew circles Y and Z. She separated Y into fourths. She separated Z into eighths. She shaded 3 parts of Y. Then she shaded Z to show a fraction equivalent to the fraction for Y.

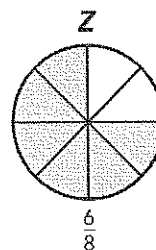
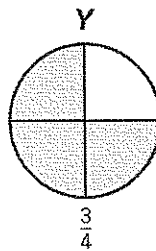
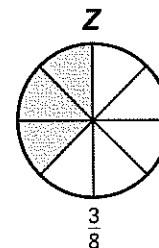
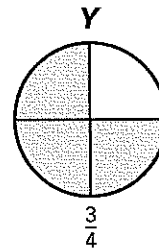
Arlene said, "Both circles have 3 parts that are shaded. That means that the fractions are equivalent:  $\frac{3}{4} = \frac{3}{8}$ ."

What did Arlene do right? What did she do wrong?

Show your work. Use pictures, words, or numbers to explain.

**Arlene correctly made equal parts in both circles. She named the correct fractions for the parts she shaded.**

**Her mistake was shading only 3 parts of Z. The shading in both circles must cover the same amount of the whole to show equivalent fractions. Arlene should have shaded 6 parts of Z to show that  $\frac{6}{8}$  is equivalent to  $\frac{3}{4}$ .**



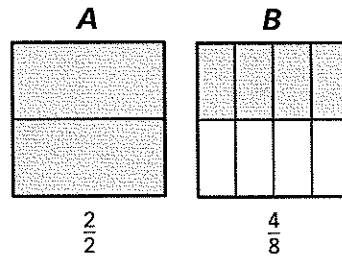
Where does the example...

- use a picture to explain?
- use numbers to explain?
- use words to explain?
- give details?



**Solve the problem. Use what you learned from the example.**

Shelley drew squares *A* and *B* to show equivalent fractions. She said, "I separated square *A* into 2 equal parts and square *B* into 8 equal parts. Then I shaded 2 parts of *A*. I shaded 4 parts of *B* to show an equivalent fraction. Since *B* has more equal parts, I doubled the number of shaded parts."



What did Shelley do right? What did she do wrong?

Show your work. Use pictures, words, or numbers to explain how you decided what to draw.

Did you...

- use a picture to explain?
- use numbers to explain?
- use words to explain?
- give details?



## Tell and Write Time

Name: \_\_\_\_\_

**Prerequisite:** Tell Time to 5-Minute Intervals

**Study the example problem showing how to skip count to tell time. Then solve problems 1–6.**

**Example**

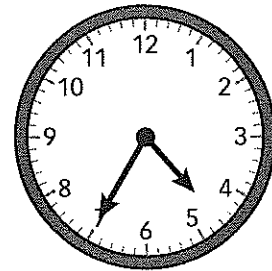
The clock shows the time that Julian finished his guitar practice. What time did his practice end?

The hour hand is past the 4, but it isn't at the 5 yet. The minute hand points to the 7. Skip count by fives 7 times to find the minutes.

5, 10, 15, 20, 25, 30, 35

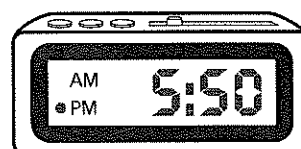
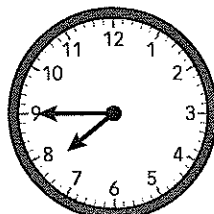
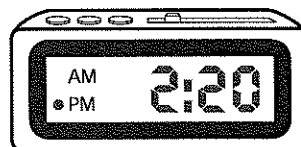
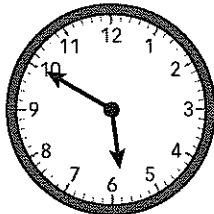
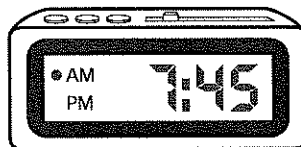
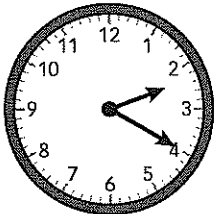
The clock shows 35 minutes after 4 o'clock.

Julian's guitar practice ended at 4:35.



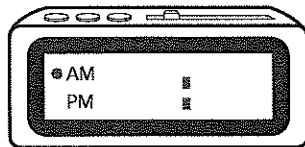
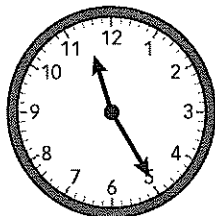
**Draw lines to match clocks that show the same time.**

1

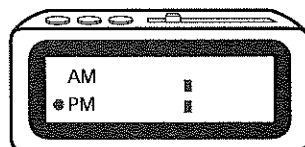
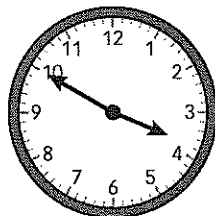


Write the time on the clocks so that each pair of clocks shows the same time.

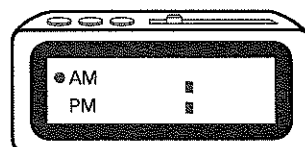
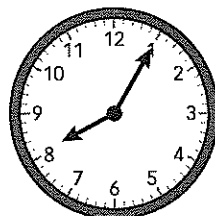
2



3

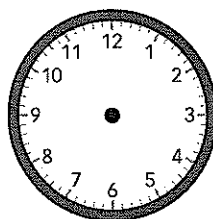
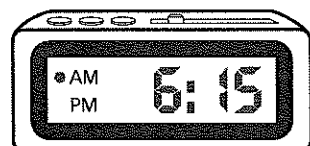


4

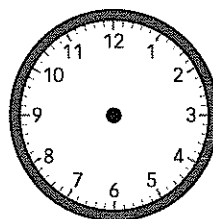
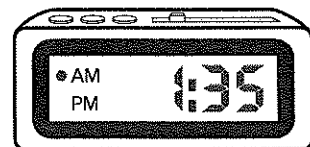


Draw hour and minute hands so that each pair of clocks shows the same time.

5



6



## Tell Time to the Minute

**Study the example problem showing how to tell time to the minute. Then solve problems 1–9.**

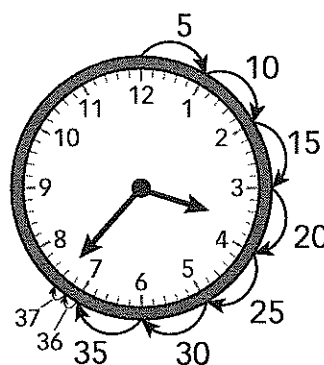
**Example**

What time does the clock show?

The hour hand shows that it is between 3 o'clock and 4 o'clock. It takes 5 minutes for the minute hand to move from one number to the next. It takes 1 minute for the minute hand to move from one mark to the next.

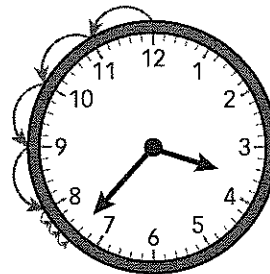
Count by fives from the 12 to the 7. Then count 2 more minutes.

The clock shows 37 minutes after 3, or 3:37.



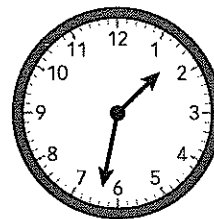
- 1** Look at the red arrows on the clock. Count by fives and by ones to find the minutes before 4:00. Fill in the blanks.

5, 10, \_\_\_\_\_, \_\_\_\_\_, 21, \_\_\_\_\_, \_\_\_\_\_  
 \_\_\_\_\_ minutes before \_\_\_\_\_

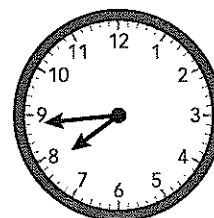


**Write the time in two ways.**

- 2** \_\_\_\_\_  
 \_\_\_\_\_ minutes before \_\_\_\_\_

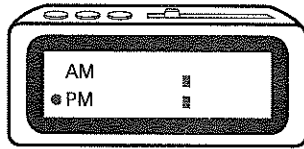
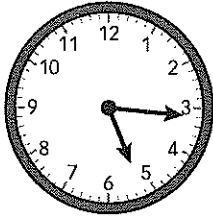


- 3** \_\_\_\_\_  
 \_\_\_\_\_ minutes before \_\_\_\_\_

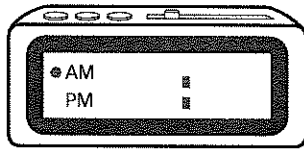
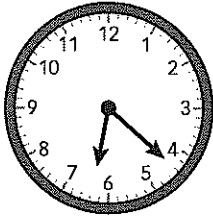


Write the time on the clock so that each pair of clocks shows the same time.

4



5



Draw the hands on the clock to show the time.

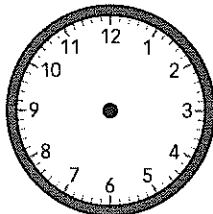
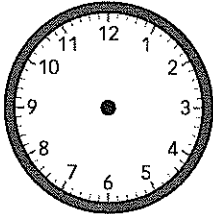
6

It is 13 minutes after 4.



7

It is 13 minutes before 7.



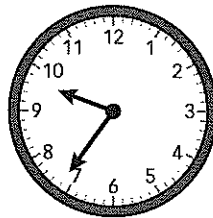
8

Write the time in three ways.

\_\_\_\_\_

\_\_\_\_\_ minutes after \_\_\_\_\_

\_\_\_\_\_ minutes before \_\_\_\_\_

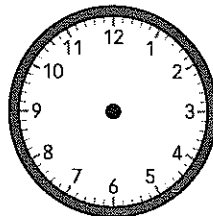


9

Look at the clock in problem 8.

What time will it be in 24 minutes?

Draw hands on the clock to show that time.

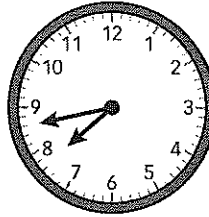


## Tell and Write Time

## Solve the problems.

- 1 Which phrases describe the time shown on the clock? Circle the letter for all that apply.

- A 43 minutes after 7:00
- B 43 minutes before 7:00
- C 43 minutes before 8:00
- D 17 minutes before 7:00
- E 17 minutes before 8:00
- F 17 minutes after 7:00



Count back from the 12 to find how many minutes before the hour.



- 2 Carlotta got to the Toy Museum at 10:19. Circle the letter of the correct answer.

- A 19 minutes before 10:00
- B 19 minutes before 11:00
- C 41 minutes before 10:00
- D 41 minutes before 11:00

Josh chose **B** as the correct answer. How did he get that answer?

---



---



---

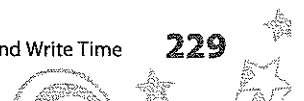


---



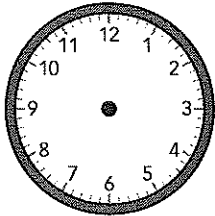
---

Are the minutes before the hour less than or more than 30?



## Solve.

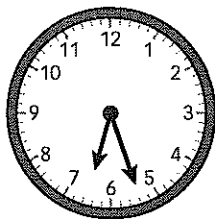
- 3 Enrique left the science center at 12 minutes before 3:00. Draw hands on the clock to show this time.



Between which two numbers will the hour hand be?



- 4 Kamala got home from her jazz dance lesson at the time shown on the clock. Write the time in two ways.

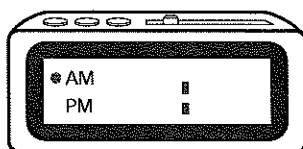
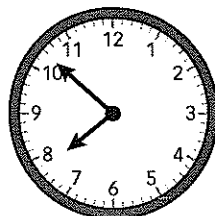


\_\_\_\_\_ minutes before \_\_\_\_\_

Between which two numbers is the hour hand?



- 5 Chen ate breakfast this morning at the time shown on the clock.



Write the time on the digital clock. Mark A.M. or P.M.  
Then tell the time before the hour.

\_\_\_\_\_ minutes before \_\_\_\_\_

Think about what Chen is doing. Is this something he would do when it's A.M. or P.M.?

